# REPORT OF COMPLIANCE SAMPLING INSPECTION

and

SANITARY SEWER OVERFLOW INSPECTION

at the

CHARLESTON WASTEWATER LAGOON CHARLESTON, MISSOURI

NPDES PERMIT NUMBER: MO0120081 MARCH 3-4, 2015

by the

U.S. ENVIRONMENTAL PROTECTION AGENCY

**Region VII** 

**Environmental Sciences and Technology Division** 

### **INTRODUCTION**

At the request of the Water, Wetlands, and Pesticides Division, Water Enforcement Branch (WWPD/WENF), a Compliance Sampling Inspection was conducted at the Charleston Wastewater Lagoon on March 3-4, 2015. The inspection was conducted under the authority of Section 308 of the Clean Water Act, as amended. The inspection was conducted in accordance with EPA Region VII Standard Operating Procedures for Compliance Inspections (ENST SOP No. 2332). This narrative report and the attachments present the results of this inspection.

## **PARTICIPANTS**

City of Charleston:

David Harris, Public Works Director Allen Rodgers, Wastewater Operator Richard Goode, City Manager

U.S. Environmental Protection Agency (EPA) Region VII: Peter Green, Environmental Scientist

### **FACILITY DESCRIPTION**

The Charleston WWTF is a 4-cell aerated lagoon system located in the northeast part of the city (see map and aerial photo-Attachment 1). The lagoons have a total surface area of 16.5 acres and a volume of 50 million gallons. The original, 3-cell aerated lagoon was constructed in 1990. A fourth cell was added on in 2000 to accommodate the new correctional facility (currently housing ~1800 inmates). The new cell is the largest (6.8 acres), provides ~53% of the volume and retention time, and serves as the primary cell. Attachment 7 includes a diagram of the lagoons and aeration system. In 2012, a tertiary treatment system (Lemna®) was added to enhance ammonia removal. This went on line

in August 2012. An ultraviolet disinfection process was also added (2 banks, with 4 sets of 5 lamps in each). The plant has a design flow of 1.5 MGD and average flow (last 3 years) of 1.26 MGD. It discharges to an unnamed tributary of Stevenson Bayou. The plant receives domestic wastewater from the City's ~6000 residents (including inmates). There are no significant industrial users. The plant is monitored and maintained by a full time certified operator assisted by two other Public Works' staff (in addition to Mr. Harris, an "A" certified wastewater operator).

### **INSPECTION PROCEDURES**

I arrived, unannounced, at the Charleston City Hall on Tuesday afternoon, March 3. I was directed by the staff there to the Public Works facility, where an employee contacted Mr. Harris. He arrived a few minutes later, and I introduced myself, presented my credentials, and explained the purpose and scope of the inspection. We proceeded to the treatment lagoons, and Mr. Harris escorted me to the influent and effluent structures. I collected grab samples at both locations, and also installed an automatic sampler for the raw influent. I took photographs of the lagoons and associated equipment (Attachment 2). We then proceeded to the City's water plant to collect Discharge Monitoring Reports. We also visited the main lift station (next to the water plant) and the Brown Shoe and 6th Street lift stations for inspection. The next morning I met Messrs. Harris and Rodgers at the lagoons. I collected additional samples of the plant influent and effluent. Mr. Harris and I went to City Hall, where we discussed the City's operation and maintenance of the collection system, SSO reporting, and efforts to reduce inflow and infiltration (I/I). Mr. Harris gave me copies of the Discharge Monitoring Reports (DMRs) for the last 3 years (37 months; Attachment 3), semiannual I/I Reduction reports (Attachment 4), SSO Reports (Attachment 5), Wastewater Department budgetary information (Attachment 6), excerpts from a 2009 Facility Plan for the lagoons (Attachment 7), and other documents. I issued a Notice of Potential NPDES Permit Violations (NOPV-Attachment 8) for exceedances of the City's effluent ammonia limits in December 2014 and January 2015, which Mr. Harris signed. I summarized my preliminary observations and EPA Region 7's inspection report procedures.

Given the winter weather advisory that was issued for southeast Missouri that morning (including an inch of sleet and up to 12 inches of snow), it appeared unlikely that access to the lagoon would be possible the following day. I therefore departed and transported the samples I collected back to the Science and Technology Center in Kansas City that day. The following Monday, March 9, I received an email from Mr. Harris responding to the NOPV (see Attachment 9). On April 15, 2015, I contacted Mr. Harris to discuss the City's I/I reduction program. I also called Mr. Goode to inquire about per capita water use in Charleston.

<u>Sampling Procedures:</u> Assisted by Messrs. Harris and/or Mr. Rodgers, I collected grab samples of the influent and effluent on both days by dipping a pole sampler into the streams of flowing wastewater. The influent samples were collected from the raw inlet on the primary cell (see photo 2), and effluent samples were collected from the weir vault

after the ammonia reactors and ultraviolet disinfection channel (photo 14). I also collected a *composite* sample of the plant influent on the second day using an Isco model 3710 automatic sampler. (In order to avoid dangerous driving conditions en route to the laboratory on March 4, it was necessary to halt the collection of the influent composite sample after only 17½ hours). I installed the sampler by suspending a weighted length of new Tygon suction tubing approximately 3 feet below the top of the standpipe, and programmed it to collect a 100 mL aliquot every 30 minutes over the next 24 hours. I placed a clean Nalgene bottle in the sampler with ice and initiated sampling. The following morning, I removed the collection bottle, mixed it vigorously and poured the contents into pre-labeled sample containers. I also measured the pH and temperature using a portable field meter. I obtained daily flow totals from Mr. Rodgers' logbook.

All of the samples were placed immediately into an ice chest with ice and secured in the back of my vehicle. On Wednesday, March 4, I delivered the samples to the EPA Region 7 Science and Technology Center (R7 STC) laboratory, along with field sheets and chain of custody documentation. I followed Region 7 ENST standard operating procedures in the collection, packaging, transportation, and handling of the samples; see SOP No's. 2333-Field Measurements, 2334-Sample Collection and Sample Design, and 2420-Sample Management.

### FINDINGS AND OBSERVATIONS

Attachment 10 is a completed Water Compliance Inspection Report (EPA Form 3560-3), and Attachment 2 contains photographs taken during the inspection.

1. NPDES Permit: The city's current NPDES permit (see Attachment 11) took effect on January 23, 2009 and expired on January 22, 2014. The permit contains effluent discharge limits for BOD (45 mg/L monthly average/65 mg/L weekly average), TSS (70/110), pH (≥6), ammonia (seasonal), oil & grease (10/15), antimony, copper, lead, and zinc. The limits for ammonia, oil and grease, and the four metals became effective 3 years from the date of issuance (i.e., January 23, 2012). Weekly effluent monitoring is required for conventional pollutants, with monthly monitoring for effluent oil & grease, the 4 metals, and influent BOD and TSS. Other monitoring parameters include: 11 other metals and cyanide (quarterly); Whole Effluent Toxicity (annual); and total toxic organics (once/permit cycle). The permit also requires the City to develop and implement a program for maintenance and repair of the collection system, and to submit semi-annual progress reports describing measures taken to locate and eliminate sources of infiltration and inflow (I/I) into the collection system.

Mr. Harris said that an application for renewal of the permit was submitted in July 2013. He has periodically contacted MDNR to inquire about the status of the permit and was told they were working on a backlog of permit issuances (see phone log-Attachment 12). Although the expired permit did not contain limits for E. Coli, the City has installed an ultraviolet disinfection system in anticipation of new permit limits. The system is on line and will be started up at the beginning of the disinfection season this spring.

2. Discharge Monitoring Reports: Discharge Monitoring Reports (DMRs) for the last 3 years are in Attachment 3. Monthly average effluent data for the last 4 years are also tabulated in Attachment 13.

<u>Permit Compliance</u>: There were no exceedances of permit limits for effluent BOD or TSS in the last 3 years. The average and maximum effluent BOD concentrations reported were 12.3 mg/L and 40.7 mg/L, respectively. The average and maximum TSS concentrations were 15.5 mg/L and 37 mg/L.

There were no permit exceedances for oil and grease (which is always < 5 mgL), pH, or metals.

Ammonia: The seasonal limits for ammonia became effective in January 2012. The new (\$1.3 million) nitrification reactor went on line in August 2012. Before that, the existing lagoon system was generally capable of meeting those limits during the *warmer* months, but colder water temperatures inhibit the growth and activity of the nitrifying bacteria needed to remove ammonia. The table in Attachment 13 shows that effluent ammonia concentrations exceeded the seasonal permit limits in the first 5 months of 2011 *and* 2012 (though the limits were not yet in effect in 2011).

In the 30 months *since* the ammonia reactors went online, there have been 3 periods of noncompliance (over 6 individual months): April-May 2013; February-March 2014; and December 2014-January 2015 (see table below). I issued a Notice of Potential NPDES Permit Violations (Attachment 8) for the exceedances in December 2014 and January 2015.

Ammonia	Exceedances;	August	2012-Janua	ry 2015:

NH3 Conc (mg/L)	Monthly Average	<u>Limits</u>	Effluent Temp.
13.9	3.9	2.9/9.3	16.1 C
12.6	4.6	1.4/6.6	17.3 C
9.59		2.9/9.3	2.1 C
9.95	8.7	2.9/9.3	3.4 C
	2.97	2.9/9.3	3.5 C
	3.29	2.9/9.3	7.8 C
10.4		2.9/9.3	2.8 C
11.4	_	2.9/9.3	6.1 C
11.8	10.5	2.9/9.3	5.1 C.
	13.9 12.6 9.59 9.95	13.9 12.6 9.59 9.95 8.7 2.97 3.29 10.4 11.4	13.9       3.9       2.9/9.3         12.6       4.6       1.4/6.6         9.59       2.9/9.3         9.95       8.7       2.9/9.3         2.97       2.9/9.3         3.29       2.9/9.3         10.4       2.9/9.3         11.4       2.9/9.3

In his response to the NOPV (Attachment 9), Mr. Harris attributed the elevated ammonia in December 2014 and January 2015 to the low ambient temperatures. The nitrification system performs well as long as water temperatures are at least 6 Celsius or greater, he said. Historical data relied on by the engineers indicated that these conditions would generally be met. In each of the last two winters, however, water temperatures have dropped below 6 C, as evidenced by the icing over of the polishing lagoon. (Daily and monthly-average effluent temperatures are included alongside the effluent violations in

the above table). Attachment 14 includes an email to MDNR regarding the February 2014 violation, when the water temperature was measured at 2 C. When I called Mr. Harris on April 15, he said that he had received the final laboratory reports for February 2015, and that the lagoons had also exceeded the monthly average ammonia limit in February 2015.

Mr. Harris said that the City has discussed this problem with their engineers (Smith & Co.), who in turn have contacted the vendor. One solution proposed was to recirculate some of the effluent back through the lagoons. This would require installing a lift station. (Mr. Harris said that he expected sewer rates to be raised in order to provide the needed upgrade). Another factor contributing to the cold temperatures in the ammonia basin is the long retention time in the lagoon system. Hence, bypassing the primary cell during the coldest months might help by keeping effluent temperatures above 6 C.

The ammonia violations in April and May of 2013 were *not* caused by low temperatures. In a May 2013 email to MDNR, Mr. Harris suggested that something toxic to the nitrifiers may have been discharged to the sewer. (Nitrifying bacteria are generally more sensitive to toxic shocks than other treatment organisms). The operators responded by adding supplemental nitrifying bacteria, and effluent ammonia values below 0.05 mg/L were restored by May 20. They have continued to seed the basins, when necessary, with 5 gallons at a time of the commercially-supplied nitrifiers.

Aside from the event in April/May 2013, the ammonia reactors appears to perform well as long as water temperatures remain moderate. The high DO and pH levels consistently reported for the plant effluent indicate favorable conditions for nitrification reactions. There were no exceedances in December 2012/January 2013, when the mean effluent temperature was 7.9 C (the mean ambient *air* temperature was 6 C). The mean effluent temperature in December 2013 through February 2014, in contrast, was only 4.4 C (mean ambient-1 C), and in December 2014/January 2015, the mean effluent temperature was 6 C (ambient-3 C).

Influent Loading: The average and maximum influent BOD concentrations reported over the last 37 months were 125 mg/L and 371 mg/L, respectively. Together with the average flow (1.26 MGD), this indicates an (estimated) average daily BOD loading of 1300 pounds per day (ppd). This is somewhat higher than the expected BOD loading for a population of ~6000 (~1020 ppd). The average and maximum influent TSS concentrations were 80 mg/L and 277 mg/L, which corresponds to ~850 ppd.

Since June 2013, the City has reported the monthly average percent removal rates for BOD and TSS on their DMRs. In January and March of 2014, the percent removal was less than the permit-required 65%. The effluent concentrations were not particularly high during either month, but influent concentrations were very low (40-60 mg/L).

Influent characteristics are monitored using grab samples. The characteristics of raw domestic wastewater may vary significantly throughout the day. Although the permit does not require it, collecting 24-hour composite influent samples would provide more

confidence in assessing the actual characteristics of the raw wastewater, and the rate of organic loading at the lagoons. (The pollutant concentrations in the composite sample I collected on March 4, while still relatively low, were approximately double the concentrations in the *grab* sample I collected on March 3).

3. General Inspection Observations: The lagoons, aerators, and blowers appeared to be in good condition and well-maintained. The blowers installed in 2000 were renovated 2 or 3 years ago, and the blowers for the nitrification basin are new. The blowers are alternated regularly. The aeration diffusers in the lagoons were replaced last year by Environmental Dynamics International (EDI). The City recently signed an 8-year contract with EDI Aeration Works (see Attachment 15; price quote and description) to conduct biennial inspections and perform preventive maintenance of the lagoon aeration system and membranes.

As seen in photo 11, a very light-weight white foam was observed on the surface of the nitrification basin and some of it was blown out of the basin by wind. Mr. Harris attributes this to the intense aeration process and possibly some detergent residues in the effluent. No foam or other impacts were observed in the receiving stream below the outfall.

Mr. Harris said that no exceedances have ever occurred for effluent metals and the City has asked MDNR to remove the monitoring requirements for metals from the permit. The Gates Rubber Company facility, the potential source for such metals, shut down several years ago. (The Brown Shoe Company manufacturing facility is also shut down).

The WWTP operators measure pH and DO levels in the lagoon influent and effluent every day. I reviewed a logbook at the water plant documenting daily calibration of the meters. The records appeared to be thorough and complete.

Influent and effluent samples for compliance monitoring are taken to Environmental Analysis South in Jackson, Missouri. I reviewed analysis reports and chain of custody documents, which were thorough and consistent with DMR reports.

- **4. MDNR Inspections:** The WWTF was last inspected by MDNR on June 12, 2013. Attachment 16 is the report from that inspection. No compliance issues were identified at the WWTP. It was noted that the Gilmore lift station (#18) was in need of renovation, and the valves at the Gilmore and Brown Shoe lift stations needed to be exercised regularly.
- **5. Collection System:** The collection system consists of 27 miles of gravity lines and 8 miles of force mains, with 331 manholes and 20 lift stations.

Attachment 17 is a list of the lift stations, with their current condition and renovation dates. The lift stations are equipped with audible and visual alarms, and are checked daily. None of them are equipped with backup generators. Mr. Harris said that the City is rebuilding 2 lift stations per year. Since 2007, 13 of the lift stations have been

renovated. The Department budget includes \$35,000 per year for repair/replacement of pumps. The table in Attachment 17 describes the Paul lift station as being in poor condition and in need of a total rebuild. It is scheduled to be renovated in Fiscal Year 2015/16.

During this inspection, I visited the master lift station (adjacent to the water plant), the 6<sup>th</sup> Street lift station and the Brown Shoe factory lift station (see photos-Attachment 2). Some of the equipment (a shaft and the floor of the wet well) at the Brown Shoe lift station had just been replaced that morning. Comprehensive inspections of all 20 lift stations are conducted every year by an outside contractor. The contractor provides inspection reports, with photographs.

Mr. Harris said that the final 2014/15 budget includes ~\$95,000 for replacement of the control panel at the master lift station and for a dewatering pump (for sewer excavation work). The residential sewer user fee was raised in June 2014 to \$23.75 per month. The City has a trailer-mounted combination jetter/vacuum machine.

Copies of the last 7 semiannual I/I reports are included as Attachment 4. In 2010, Waters Engineering designed a plan for a comprehensive survey and rehabilitation of the collection system. Attachment 18 includes a spreadsheet showing the planned activities for each of the 19 lift station zones over a 10-year period. The first 5 years (2011-2015) are devoted to system characterization through smoke testing, CCTV inspections, and manhole inspections. Rehabilitation of gravity sewers and manholes would occur over the succeeding 5 years. For planning purposes, it was assumed that 15-25% of the gravity lines and manholes would require rehabilitation work in most of the zones.

I briefly reviewed Mr. Harris' copy of a Facility Plan for the collection system which was completed by Waters Engineering on February 2, 2015. Although Charleston's sewers are relatively deep and the water table is high, the report assessed the magnitude of I/I in the collection system as *not* excessive, based on average dry and wet weather WWTP flows. (The ratio of the maximum and average daily flows was 2.268 MGD/1.202 MGD, or 1.89 in 2013, and 2.114/1.509, or 1.4, in 2014). Typical dry weather flows in Charleston are 0.9 to 1.0 MGD. Given the population of ~6000, this equates to more than 150 gallons per person per day. Mr. Goode told me that per capita water consumption in Charleston is generally about 30% higher than the national average. He attributes this, in part, to the fact that the water is not metered, so there is little incentive for residents to conserve. The City has appealed to residents, through the news media, to conserve water, and restricts lawn irrigation during dry periods.

The City is ahead of schedule and has smoke-tested the entire collection system in the last 3 years. Mr. Harris told me that the total rehabilitation costs are now expected to be ~\$700,000 (substantially less than the \$2.62 million estimate projected in the spreadsheet in Attachment 18). The City has been repairing broken riser tops and cleanouts that were discovered on inspection, and is conducting camera inspections of 9 identified problem areas. A total of ~2000 linear feet were recently cleaned and camera-inspected (and additional camera work has been done since this inspection). Of 330 manholes inspected

so far, 18% have defects allowing infiltration. Although 35% of the manholes are of brick construction, more defects are being found in the precast structures.

After the 2011 floods, the City received financial assistance from FEMA to do some repairs on the collection system. (According to Mr. Harris, the underground infrastructure may also have sustained some damage on May 2, 2011, when the Mississippi River levee [10 miles from Charleston] was demolished by the Army Corps of Engineers).

6. Bypasses/Overflows: Nine sanitary sewer overflows (SSOs) were reported during the week of April 27-May 4, 2011. Copies of the overflow reports are included in Attachment 5. After a week with more than 13 inches of rain in the area, there were minor overflows at three manholes near the 6<sup>th</sup> Street lift station on April 27, 2011. Again on May 2, and over the next several days (with heavy rains continuing), overflows were reported at the same three locations, and three others.

No overflows have been reported since 2011. Prior to 2011, the last overflow reported was in 2008, when the prison lift station malfunctioned. Basement backups do not occur in Charleston; there are very few basements because of the shallow water table.

7. EPA Sample Results: The report of laboratory analysis for the influent and effluent samples I collected on March 3 and 4, 2015, is included as Attachment 19. The concentrations of BOD, TSS, oil and grease, pH, and metals in the lagoon effluent samples were well within permit limits.

The concentration of ammonia in the two effluent samples was 2.14 mg/L and 4.29 mg/L. The 2-day average, 3.2 mg/L, exceeded the monthly average permit limit of 2.9 mg/L, and was similar to the average reported last March by the City. (Mr. Harris later told me that the effluent ammonia concentrations had decreased after the week of this inspection, and the monthly average permit limit was not exceeded in March).

The elevated ammonia concentrations were not surprising, given the cold temperature of the effluent (2.6 to 2.7 C). The concentrations of nitrite and nitrate in the effluent indicate that *significant* nitrification was occurring in the lagoons *and/or* the tertiary treatment system.

For the influent samples, the BOD, TSS, and ammonia concentrations were relatively low for domestic wastewater, but were higher on the second day (based on a composite sample) than the first day (based on a grab sample). The 2-day average removal rates were 70% for BOD and 88% for TSS.

### CONCLUSIONS/RECOMMENDATIONS

- 1. The new ammonia reactor installed at the Charleston lagoons in 2012 has improved the City's compliance with their effluent permit limits for ammonia. However, the limits were exceeded during 7 of the 32 months since the reactor went on line (as of April 1, 2015). Five of these exceedances occurred during cold months, when the biological nitrification process is inhibited (it ceases at temperatures below 5 degrees C). The City should continue to investigate strategies for maintaining compliance with permit limits throughout the winter months, and implement them.
- 2. The City should continue efforts to reduce infiltration and inflow in the collection system.
- 3. Per capita water consumption in the City of Charleston is 30% above the nationwide average. This increases the operation and maintenance costs for the wastewater collection and treatment systems as well as water treatment and distribution costs. The City should redouble efforts to promote water conservation.
- 4. In order to provide more accurate data to characterize raw influent and organic loading to the treatment lagoons, the City should consider collecting 24-hour composite samples of the raw influent.

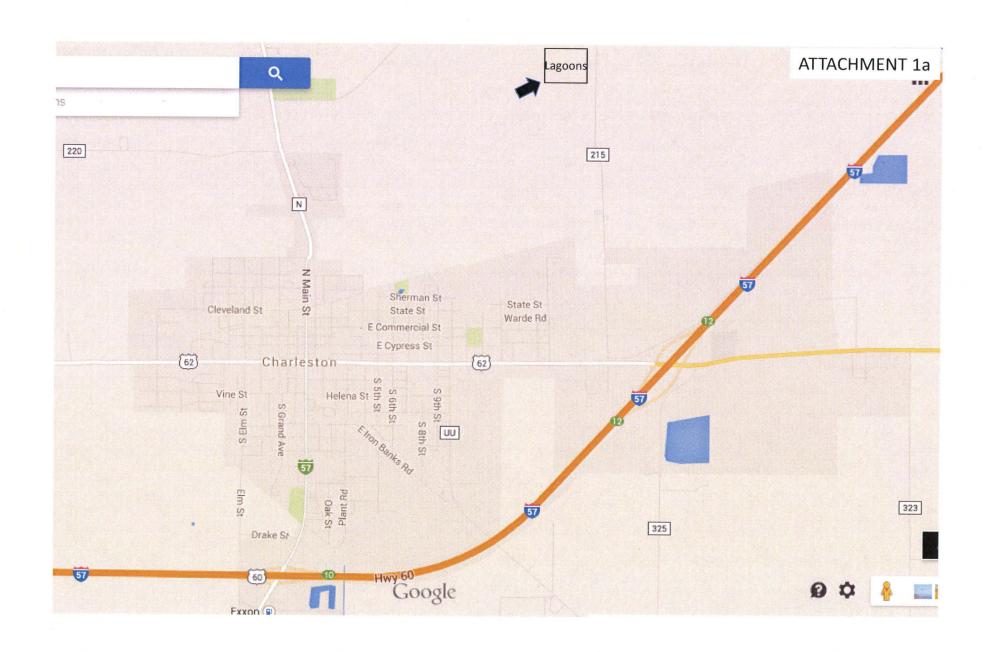
Peter M. Green

Environmental Scientist Activity No.: WGP385 Date: April 16, 2015

### Attachments:

- 1. Map & Aerial Photo of Charleston and Charleston Lagoons (2 pages)
- 2. Digital Photos Taken during Inspection, with Captions (25 pages)
- 3. Discharge Monitoring Reports; 2012-2015 (87 pages)
- 4. Semiannual I/I Reduction Reports; 2011-2013 (31 pages)
- 5. SSO/Bypass Reports (18 pages)
- 6. City of Charleston Budget Spreadsheets, FY 2014-2016 (5 pages)
- 7. Excerpt from 2009 Facility Plan for Charleston Lagoons (5 pages)
- 8. Notice of Potential NPDES Permit Violations (NOPV; 1 page, 3 copies)
- 9. March 9, 2015 Email Re: Response to NOPV
- 10. NPDES Water Compliance Inspection Report (form 3560-3) (4 pages)

- 11. City of Charleston NPDES Permit No. MO0120081 (iss. 1/23/2009; exp. 1/22/2014, and Fact Sheet (30 pages)
- 12. Mr. Harris' Phone Log, Re: Status of NPDES Permit Renewal
- 13. Summary of Monthly DMRs; 2011-2013 (2 pages)
- 14. Email Correspondence with MDNR, Re: Ammonia Exceedances in May 2013 & February 2014 (2 pages)
- 15. Information on Service Contract with EDI for Maintenance of Lagoon Aeration Membranes (4 pages)
- 16. Report of June 12, 2013 MDNR Inspection (8 pages)
- 17. Lift Stations and Status Information
- 18. Collection System Inspection and Rehabilitation Information (5 pages, including two 11' x 17')
- 19. EPA Sample Analysis Results for ASR #6723; Charleston Lagoon CSI (7 pages)





# Charleston Wastewater Lagoon NPDES Inspection; March 3, 2015

Digital photos

Taken by Pete Green, EPA Region VII



1. Primary lagoon cell (NW)



2. Influent sampling point in primary cell (with EPA sampler and pH meter) (SW)



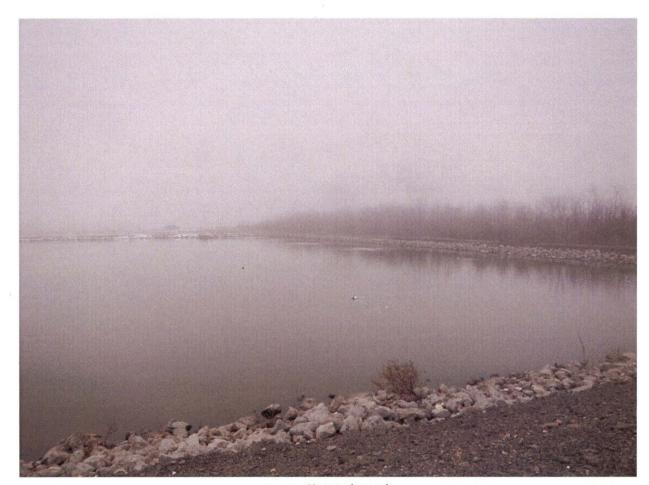
3. Blowers for primary cell (ENE)



4. View of Cell #2 (NNE).



5. Cell #2 (ENE)



6. Cell #2 (ESE)



7. Blowers for Cells 2 & 3 (NE)



8. Ammonia reduction reactor (N)



9. New blowers for ammonia reactor tanks (W).



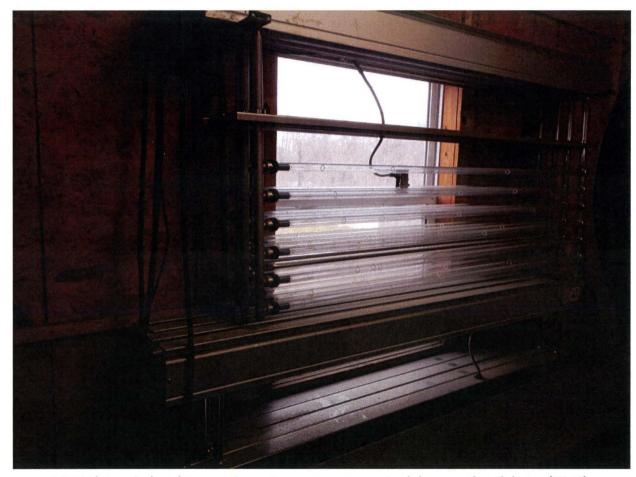
10. One of the three blowers for ammonia reactors (SW).



11. Foam observed on north wall of ammonia reactor tanks (SSE)



12. Ultraviolet disinfection system (WNW)



13. Ultraviolet lamps in winter storage in blower building (SW).



14. Effluent weir vault, with V-notch weir (E)



15. Outfall 001, with signs (S)



16. Outfall 001 (S)



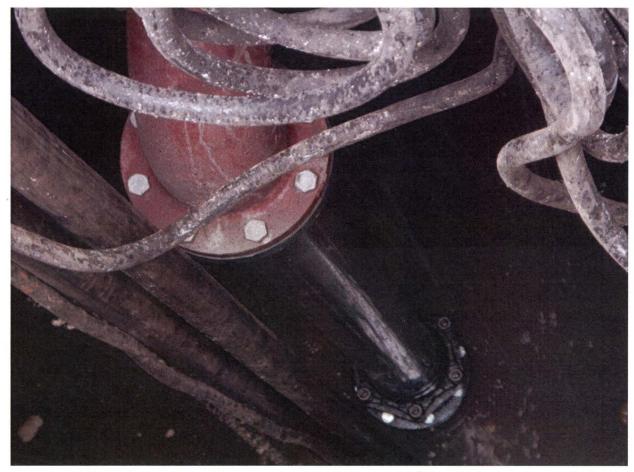
17. Wet well at main lift station.



18. Control panel at 6<sup>th</sup> St. Lift Station (WSW)



19. Wet well at Sixth Street lift station (with new floor and shaft installed yesterday)



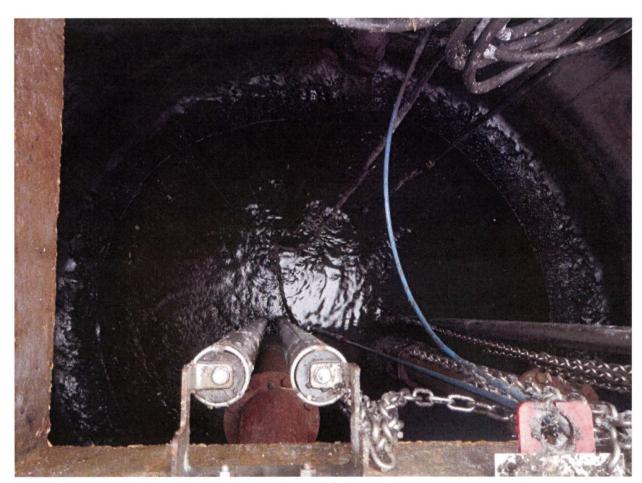
20. Close-up of new pipe installed at 6th St. Lift Station.



21. Old pipes removed from 6<sup>th</sup> St. wet well (NW)



22. New control panel at 7<sup>th</sup> St. Lift Station (W)



23. Wet well at 7<sup>th</sup> St. lift station.



24. 2014 smoke test reports in Mr. Harris' office.



#### MONTHLY MONITORING RECORD FOR WASTEWATER TREATMENT FACILITIES

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ot of Samp.		20	<u>5</u> 330	564	20	20	<del></del>	23				,		1479
Aonthly Avg.	24.3		1381 66	112.8			44.9 8.97	4.6						7.4
Daily Max.	1777	7.15	108	277	16.1	7.93	13.6	8				-		<b>6.3</b>
aily Min.	Q SIVE	686	2/800	TRANSPORT	17.1	7.60	620							6.0
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OPE	TATION	ML CO	INTROL	PARAMET	ENO					
DATE	. PH UNITS	ALK. ml/l	DO mg/l	SET SOLIDS RAW ml/l	SUSP. SOLIDS MIXED LIQUOR mg/l	SETTLEABILITY MIXED LIQUOR ml/l	SLUDGE DISP. (LBS. DRY WT.)	TEMP °F - °C	RAIN AND WEATHER	Fill out one copy of report each month and mail in monthly for each treatment facility.  Mail one copy of report to the appropriate DNR regional office as noted in your permit and keep one copy in your files.  Reports must be signed by whoever performed tests and by an appropriate official.  In the weather column, use the following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  Use 24 hr. composite (proportional) samples for all operational control test.  Use 24 hr. composite (proportional) samples for B.O.D. 5, and Suspended Solids tests unless NPDES permit indicates otherwise. Use "Standard Methods" or an approved equal for all parameters.  Treatment plant flow measurements may be made on either influent or effluent. Lagoon influent flow measurements need be only at the time of composite sampling of the influent. All tests must be performed in accordance with NPDES Permit Conditions and Operational Control Regulation 10 CSR 20-8.010. Review your permit for specific requirements.  Unusual conditions, significantly affecting operations must be reported immediately to the Department of Natural Resources.  Representative sludge samples should be taken either before entering digesters and/or holding tanks or after removal from digesters or holding tanks.
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12			<del> </del>	<del> </del>					-	Fill out one copy of report each month and mail in monthly for each treatment facility.  Mail one copy of report to the appropriate DNR regional office as noted in your permit and keep one copy in your files. Reports must be signed by whoever performed tests and by an appropriate official.  In the weather column, use the following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  Use grab sample for pH, Temp. and D.O. Use grab samples for all operational control test.  Use 24 hr. composite (proportional) samples for B.O.D. 5, and Suspended Solids tests unless NPDES permit indicates of "Standard Methods" or an approved equal for all parameters.  Treatment plant flow measurements may be made on either influent or effluent. Lagoon influent flow measurements need be of composite sampling of the influent. All tests must be performed in accordance with NPDES Permit Conditions and Opera Regulation 10 CSR 20-9.010. Review your permit for specific requirements.  Unusual conditions, significantly affecting operations must be reported immediately to the Department of Natural Resources. Representative sludge samples should be taken either before entering digesters and/or holding tanks or after removal fron holding tanks.
13		<u> </u>	-			<u> </u>	<del></del>			ach month and mail in monthly for each treatment faciline a appropriate DNR regional office as noted in your pewhoever performed tests and by an appropriate official. the following symbols: R-rain, S-snow, C-clear, P.Cpamp, and D.O. Use grab samples for all operational contonal) samples for B.O.D. 5, and Suspended Solid approved equal for all parameters. The influent and the statements in accordance of the influent. All tests must be performed in accordance of the influent of the specific requirements. The samples should be taken either before entering digesters applies should be taken either before entering digesters.
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20	<del>                                     </del>	<u> </u>	╁──					<del> </del>		ach month and mail in monthly for each treatmene appropriate DNR regional office as noted in whoever performed tests and by an appropriate the following symbols: R-rain, S-snow, C-clear, I'mp. and D.O. Use grab samples for all operation sortional) samples for B.O.D. 5, and Suspender approved equal for all parameters.  Tements may be made on either influent or effluene influent. All tests must be performed in accord. Review your permit for specific requirements. antly affecting operations must be reported immerples should be taken either before entering dig
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27	<del> </del>	<del> </del>	†	-		<del> </del>	<u> </u>	<u>                                      </u>	<del> </del> -	opy y of the copy y of the copy of the copy on the copy complet the copy copy copy copy copy copy copy copy
28	<del>                                     </del>	<u> </u>	<del>                                     </del>		<del> </del>	<u> </u>		<del> </del>	<del> </del>	mus coping and man coping copi
29	<del> </del> -	<del>                                     </del>	†		<del> </del>	<del>                                     </del>		<del> </del>	<del> </del>	Fill out one copy of report each month and mail in monthly formal one copy of report to the appropriate DNR regional offine Reports must be signed by whoever performed tests and by an the weather column, use the following symbols: R-rain, S-suse grab sample for pH, Temp. and D.O. Use grab samples for B.O.D. 5, a "Standard Methods" or an approved equal for all parameters. Treatment plant flow measurements may be made on either ir of composite sampling of the influent. All tests must be performation 10 CSR 20-9.010. Review your permit for specific Unusual conditions, significantly affecting operations must be holding tanks.
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31	╽.	<del>                                     </del>	<del> </del>		<u> </u>			<del>                                     </del>	<del> </del>	– ფო <b>4</b> ოფი ≻ ფფ
<u></u>	MENTS	.L	_L	<u> </u>	<u> </u>	<u> </u>	<u>.                                    </u>	<del></del>	<u></u>	
TEST	S PERFORM	MED BY	_			Tme		l pu	ONE #	DATE
	Enfori En L	VITO	N /~~	ntel	Analysis	TITLE	Ь,	5	73 2	104-8817 1-31-12
REPO	RT APPRO	VED BY	PC	\		TITLE	-	PHO	ONE#	833325 1-31-12
MO 78	0-1306 (8-0	<u> </u>	LOC	yes	<del></del>	1 CAR	·		12-6	032011-21-12

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#### MISSOURI DEPARTMENT OF NATURAL RESOURCES NPDES MONITORING REPORT FOR STORMWATER AND WASTEWATER DISCHARGES **Quarterly Sampling – Quarterly Reporting**

CHARLESTON WV MO-0120081 MISSISSIPPI COUN		ON	Owner Addr 204 M	iess: Ch h Main	nrleston 5t:	Address Change f	for Owner:   Billing	Facility Address:  Cofy Hp 11-204 W. Main  Charleston Mo, 63834
THIS REPORT COV.  1 <sup>st</sup> Quarter = Janua  Due by April	ry through M	iarch	2 <sup>nd</sup> Qu	" in the box ber arter = April thro by July 28 <sup>th</sup>	ough June		July through September r 28 <sup>th</sup> ,20	4 <sup>th</sup> Quarter = October through December  Due by January 28 <sup>th</sup> ,20
NO DISCHARGE F	OR QUART	ER	NO DISC	HARGE FOR	QUARTER 🗌	NO DISCHAR	GE FOR QUARTER 🗆	NO DISCHARGE FOR QUARTER $\Box$
Samples Collected By:	Rodu	m			Phone: 5736833325	Analyses Performed b Environneb	- •	Phone: 204 523-204 8817
					OUTFA	LL 001		
			PERMITTED FINAL LIMIT		DATE 01-03-12	ANALYSIS	SAMPLE TYPE	ANALYTICAL METHOD
PARAMETER	UNITS	DAILY MAX	WEEKLY AVG	MONTHLY AVG	TIME	DATE	·	
Cyanide, Amenable to Chlorination	11g/I	*		*	0.005 mg	01-17-12	Grab.	Lachat CN2/5m-4500 CNG
Arsenic, TR	ug/L	*		*	< 15 VIL	1-6-12	Grab	EPA 200,7 Rev. 4.4
Beryllium, TR	ug/L	*		*	11150	1-6-12	GIBB	EPA 200,7 Rev. 4.4
Cadmium, TR	ug/L	*		*	\$3 USC	1-5-12	GIAD	5M-3/11 B99
Chromium (III), TR	ug/L	*		*	45 USL	1-5-12	G140	5 M-3500-Cr BOI
Chromium (VI), TR	ug/L	*		*	(5 15L	1-5-12	BCAPP	5 m-3500-C1-B-01
Iron, TR	ug/L	*	ļ	*	698 Ugh	1-3-12	Grab	5m 3111 B99
Mercury, TR	ug/L	*		*	(D.2 K)L	1-18-12	Grab	5m-3112-D99
Nickel, TR	ug/L	*		*	10 MIL	1-05-12	Grab:	Sm 3/1/B-99
Selenium, TR	ug/L	*		*	<10 MSL	1-06-12	GrAb	EPA 200.7 Rev. 4-4
Silver, TR	ilver, TR ug/L *					1-10-12	Grab	5 m 3/1/0398
Thallium, TR	ug/L	*		*	(20 KSL	1-06-12	Grab	EPA 200.7 Re, 4,4
SIGNATURE AND TITLE OF I	NDIVIDUAL PF	REPARING REPO	ORT		DATE	PHONE NUMBER	EMAIL ADDRESS:	
	Jeb-				1-31-12	513683325		
SIGNATURE OF OWNER OF	DESIGNEE AI		OR		DATE /-31-12	PHONE NUMBER	EMAIL ADDRESS:	

(IF VIOLATION OCCURRED PLEASE ATTACH EXPLAINATION OF POSSIBLE CAUSE)

Return form to: Missouri Department of Natural Resources
Southeast Regional Office
2155 North Westwood Blvd.

Poplar Bluff MO 63901

\* - Monitor and Report



## WATER POLLUTION CONTROL PROGRAM MONTHLY MONITORING RECORD FOR WASTEWATER TREATMENT FACILITIES

F	RLESTO	NJ W	ו ידיעו	ACOC	M	CITY		ESTON			NTY/REGIO SSISSI		סמינים	
	MONTH OF	DIA AA		OUTFALL:		_ L	IIT NUMI		1, 1110				_	
		0		0011111		1	)-0120				TREATM R LAG			
ren	CUNIX_			00		IVIC	-0120	001	<del></del>	AII	LAG	OON	{	
	, , , , , , , , , , , , , , , , , , ,	INFL	UENT	<del></del>	<del></del>	<u> </u>	<del></del>	·		EFFLUE	NT			
	FLOW: MGD GPD	PH	BOD	SUSP.	TEMP	PH	BOD	sus.	AMM	in	EFF	RAIN	WEATHER	Ŧ
DAY .	INF.OR EFF.	UNITS	mg/L	SOLIDS mg/L	· F ®	UNITS	mg/L	SOLIDS Mg/L		D.O.	D.O.			THU O
1	,917	7.21			7.6	767							PC	17
2	,937	7,07			7.3	7.64							PC	14
3	. 937	132		·	7,5	711				·		·	PC	1/2
4														
5														T
· 6	1.333	7.08	33.1	40	10,2	787	13.2	7	9,02	1.31	10.41	χ	PC	15
7	1,333	7.21	<u> </u>		10.2	7.81							PC	15
8	,937	7,26			9.5	7,79	<u> </u>	<u> </u>					PC	124
9	,937	7.20			8.4	7.84	<u> </u>	<u> </u>	<u> </u>	<u> </u>			PC	15
10	,917	6.90	<u> </u>	1	8.0	7.64		1	<u> </u>	1,23	10.06		PC.	14.
11		<u> </u>				<u> </u>	<b> </b>	<u> </u>	<u> </u>	ļ				<u></u>
12				<u> </u>		<u> </u>	<u> </u>	<u> </u>						
13	1,333	7.00	105	49	4.4	7.72	7.37	9	9,30	1,27	12,15		PC	1112
14	.937	7.09			4.8	7.65	ļ ·	<u> </u>					PC	12
15	:917	633	<u> </u>		5.1	7.87		<u> </u>		<u></u>		·	PC	13
16	. 937	9,91	<b></b>		6.7	7,73		<u> </u>	ļ				PC	141
17	.956	7.03	<u> </u>	<u> </u>	7,2	7.61		ļ	<u> </u>	.87	1637		PC	114,
18			<b></b>	1			<b></b>	· .			<u> </u>			<b>↓</b>
19		<b> </b>		<u> </u>		<u> </u>								↓
20	1.000			<u> </u>				<del> </del>	0.7	<u> </u>	1.7			<del> </del>
21	1.333	6.87	172	62	7.5	7.71	14	10	9.16	.91	1/,20		PC	14.
22	, 937	7.13	<del> </del>	<b>_</b>	8.8	7.84		<u> </u>	ļ	<u> </u>			PC	15,0
23	.937	6,87	<b> </b>	<del> </del>	10.7	786		<u> </u>	<u> </u>		1.//.		PC	14.3
24 25	,937	6,93	<b></b>	<del> </del>	10.1	7,92		<del> </del>		.24	11,12		PC_	14.3
26	<del></del>	ļ		<del> </del>										1
27	911	201	100	100	1/2	700	24.0		0 10	06	18-0		PC	15.0
28	937	7,21	123	88	11.3	7.85	30.4	9	8,57	.86	10.23		PC	17.3
29	1,333	7,12		<del> </del>	13,6	7.29	 			3 3	1122			15.1
30	1,551	6.79		<b></b>	11,7	<i>19</i> 3	<del></del>		<u>:</u>	. 23	11,22		PC	-
31			<u> </u>	<b> </b>										-
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of Samp.				14			1000	4						201
nthly Avg.	21,2		433.1	239			69.97	35			<del>  </del>			290 14.5
ly Max.	1.064	727	108.2	59.75			16,2	8.75		· <del>·····</del>				17,
	1,551	7,32 6,83	172 33:1	88	13.6 4.4	7,61	30.4 13.2	10		<del></del>				11.5
ly Min.	u 1 '7 '													

OTE: SEE INSTRUCTION ON REVERSE SIDE OF THIS FORM

780-1306 (8-02)

OPE	RATION	AL CO	NTROL	. PARAMET	LHS			<del></del> .	<del>, ,</del>				
DATE	PH UNITS	ALK. mi/i	DO .mg/l	SET SOLIDS RAW ml/l	SUSP. SOLIDS MIXED LIQUOR mg/l	SETTLEABILITY MIXED LIQUOR ml/l	SLUDGE DISP. (LBS. DRY WT.)	TEMP °F-°C	RAIN AND WEATHER		samples for B.O.D. 5, and Suspended Solids tests unless NPDES permit indicates otherwise. Use equal for all parameters.	rements may be made on either influent or effluent. Lagoon influent flow measurements need be only at the time he influent. All tests must be performed in accordance with NPDES Permit Conditions and Operational Control 0. Review your permit for specific requirements.	Jousual conditions, significantly affecting operations must be reported immediately to the Department of Natural Resources. Representative sludge samples should be taken either before entering digesters and/or holding tanks or after removal from digesters or nolding tanks.
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3											0 SE	be o	fror
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5					•			<b> </b>		יער וּוֹ	ir inc	nts n ns ar	rem
6			-						-	ach month and mail in monthly for each treatment facility.  e appropriate DNR regional office as noted in your permit and keep one copy in your files, whoever performed tests and by an appropriate official.  the following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  np. and D.O. Use grab samples for all operational control test.	ē	amer ditior	itural after
7				<u> </u>						ach month and mail in monthly for each treatment facility.  te appropriate DNR regional office as noted in your permit and keep one copy in whoever performed tests and by an appropriate official.  the following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  mp. and D.O. Use grab samples for all operational control test.	S. P	Son	or a
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27				· · · · ·						opy by of t be er cc	ethor -	ant f	ditio ive s
28										Fill out one copy of report each month and mail in monthly for each treatment facility.  Mall one copy of report to the appropriate DNR regional office as noted in your permit and Reports must be signed by whoever performed tests and by an appropriate official.  In the weather column, use the following symbols: R-rain, S-snow, C-clear, P.Cpartly cloud the grap sample for pH, Temp, and D.O. Use grab samples for all operational control test.	Jse 24 hr. composite (proportional) Standard Methods" or an approved	Treatment plant flow measurements may be made on either influent or efflue of composite sampling of the influent. All tests must be performed in accordentalion 10 CSR 20-9.010. Review your permit for specific requirements.	Unusual conditions, significantly affecting operations must be reported immediately to the Department of Natural Resources. Representative sludge samples should be taken either before entering digesters and/or holding tanks or after removal fron holding tanks.
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TESTS	PERFOR	4.4	~~~! ~~!		10	TITLE		PHO	INE #	04-8817 DATI	7 - 3	29-1	2
PERO	RT SPPRO		) V	*1 171	141/2:2.	TITLE	· c	PHO	13-2 INE #	DATI		29-1:	
WO Z	) -1306 (8-02	m	100X	-era-	·			57	13-6	83-3325	L-2	7-1.	
m○ 100	-1306 (6-02 -}	-,	Ç	r.e way									



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	MONTH OF	20	- 1	OUTFALL N		1	IT NUMB -0120			4	TREATM LAG			
11/4	RCH.	20			L 	IVIO	-0120					001		
	FLOW:	INFL	<u>JENT</u>	<del></del>	· · · · · ·	<del> </del>	T	<del></del>	т	EFFLUE	VT		1	160
DAY	MGD GPD	PH UNITS	BOD mg/ L	SUSP. SOLIDS mg/L	TEMP • F ℃	PH UNITS	BOD mg/ L	SUS. SOLIDS NIg/L	АММ	IN D.O.	EFF D.O.	RAIN	WEATHER .	OC Per
1	,937	6.85		<del> </del>	15.4	7.88			<del> </del>	81	11.31	<del> </del>	PC	111
2	1,956	7.12		<del></del>	15.4	791	<del>                                     </del>		<del> </del>	1.01	11121		PC	10.5
3	16136	1115	-		12:4	1///		<del> </del>	<del> </del>				1	10
4	<del> </del>	<del> </del>	<del> </del>	<del> </del>	<del> </del>	<del>                                     </del>	-		<del>                                     </del>	<del> </del>	<del> </del>			+
5	.898	6.95	133	102	15,4	8,77	40.7	20	7.09	,26	16,13		DC.	1/10
· 6	1, 228	7.08		1	14.5	8.39	1000			120	1000	γ	DC.	11.8
7	1,937	7.03		1	14.7	8.64		1					PC	10.7
8	11125	6.89			14.1	8,53						Χ	PC	10.8
9	1.570	6.59			15.7	8.38				,23	1157		PC	1115
10														
11														
12	1,777	7:07	48.3	35	15.7	7.87	12.6	26	5.51	1,04	9,88	Υ	PC	1/4.5
13	1.570	7:09	<u> </u>		16.1	8.17		<u> </u>		·			PC	160
14	1.777	7,10			168	8.67		ļ					PC	17,1
15	1,331	7,25			17.9	7,66					_ //		νc	17.2
16	201	7,28	ļ		16.8	7,60		<b> </b>		3.75	7,55		PC	17.7
17			<u> </u>					<b> </b>						┼
19	1 7777	101	31.		7-1	710	10	100	- 25	<del></del>	710		06	1550
20	10///	6.81	31.1	164	17.1	7,40		14	5,32	.15	5.12		PC	216
21	1.777	7,19			18.4	7,29		<u> </u>					PC PC	211
22	2.01	7.01			18,5	7,24				118	5,21	X	PC	71.5 19.5
23	2,268	7.27			17.5	7,45	<u></u>	<del> </del>		1:10	2,51		T C	20.2
24	21200	1121			111	(17-1		<del>                                     </del>					· · · · · · · · · · · · · · · · · · ·	TAVIE .
25				<del>                                     </del>										<del>                                     </del>
26	1.331	7,11	52	40	18.2	7.41	12.8	7	6,58	99	5,41		PC	19,3
27	1,331	7,18		1.0	17,3	7,48			4170	<i>4-4</i>			PC	198
28	1,570	7.20		1	18.1	7,31							PC	1918 19.5
29	1,125	7.13			19.5	7.36							PC	761
30	1,125	7.20			18.8	7.40			465	505			PC	22.3
31								·						
of Samp.	22		4	4			4	4						22
of Samp.	32.4		267	341			7227	24.5						366
thly Avg.	1,5		106.8	8525	12.		18.06	6.12						16.7
y Max.	2.68	7,28	135	164	19.5	8.77	40.7	26						2-2,3
y Min.	. 888.	6.59	48,3	35	141	7.24	6.17	7						10.7
7/ Avy.	1,755 EINSTRUCT	1.												<u> </u>

TE: SEE INSTRUCTION ON REVERSE SIDE OF THIS FORM

780-1306 (8-02) InginiocilA

OPE	-			PARAMET	ERS	·	<del></del>		<del></del>		<del></del>			
DATE	PH UNITS	ALK. mi/i	DO mg/l	SET SOLIDS RAW ml/l	SUSP. SOLIDS MIXED LIQUOR mg/l	SETTLEABILITY MIXED LIQUOR ml/l	SLUDGE DISP. (LBS. DRY WT.)	TEMP °F - °C	rain and Weather			Use 24 hr. composite (proportional) samples for B.O.D. 5, and Suspended Solids tests unless NPDES permit indicates otherwise. Use "Standard Methods" or an approved equal for all parameters.	Treatment plant flow measurements may be made on either influent or effluent. Lagoon influent flow measurements need be only at the time of composite sampling of the influent. All tests must be performed in accordance with NPDES Permit Conditions and Operational Control Regulation 10 CSR 20-9.010. Review your permit for specific requirements.	rs or
1		· ·	<del></del>									wise.	at the laf Co	affecting operations must be reported immediately to the Department of Natural Resources. should be taken either before entering digesters and/or holding tanks or after removal from digesters or
2									·			other	only a	. E
3 .												ates o	d be Oper	irces al fro
4										files		ndica	neec and	esou mov
5										your		i i	ents Ions	ral R er re
6										Ş. Fi	sast.	ber :	urem	Natu r aft
7							·			Ö.	over	DES	neas nit Co	it of i
8			·							no d	o O	s R	ow n Pern	tmer g tar
9										Keel	ly an	ınles	ent fl	epar oldin
10										and	sloud est.	sts u	infle NPT	d Po
11							<del></del>			ity. ermit	trol t	ls te	yoon with	/ to t and/
12							<del> </del>			Fill out one copy of report each month and mail in monthly for each treatment facility. Mall one copy of report to the appropriate DNR regional office as noted in your permit and keep one copy in your files. Reports must be signed by whoever performed tests and by an appropriate official.	following symbols; R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast, and D.O. Use grab samples for all operational control test.	Solic	. Lag ince	affecting operations must be reported immediately to the Department of Natural Resources. should be taken either before entering digesters and/or holding tanks or after removal fro
13							·			nent In yo te off	r, P.( ional	pep	uent orda ts.	med liges
14										reatnoted spring	clea oerat	pedi	r effl acc	d im ing o
15										ich tu as no appro	. 2. E	Sus	ed in	orte
16										or ea Ice a	sno.	and }.	influe form c rec	e reporte
17					<u> </u>					hly fa al off	in, S. iples	o. 5, eters	ther per pecifi	ust b · bef
:18				:				•		nont Jone Is an	R-ral sarr	3.O.E	on ei st be or sp	is mu
19										il in ı R reg d tes	ols: grab	al pe	ade o	ation en e
20										d ma DNF	ymb Use	oles for	tests r per	oper e tak
21				·			•			anc rlate serfo	Ing s	samı	All Nou	ting Id b
22										onth propi	llow .	ed e	nts rr uent view	affec
23		·								ch rr eapp	he fo np. a	ortion prov	emer infli	ntly a
24						`				ntea othe by w	ise t	oropo n ap	asure of the	ifica amp
25										epo ort t ned	л, Е. Т.	te (r oʻa	me; ing 0 20-9	sign ge s
26							·			/ of 1 f rep s sig	colun e for	iposi ods"	flow impli	ons, slud
27										copy py o	her c ampl	Con Aeth	olant te se 10 C	nditi Itive (S.
28										one ie co s mu	veatl ab sa	t hr.	ent r positi	al co senta tank
29										Fill out one copy of report each Mall one copy of report to the a Reports must be signed by who	In the weather column, use the f Use grab sample for pH, Temp.	Use 24 hr. composite (proportional) samples for B.O.D. 5, s "Standard Methods" or an approved equal for all parameters.	satm com gula	Unusual conditions, significantly Representative sludge samples holding tanks,
30										. Ma	- S	ლ შ	Be T	2 8 5
31										∸ લં છ	4. rc.	დ	7.	ထ်တ်
СОМІ	MENTS	·	·	<u> </u>	·	<u> </u>			•	<del>;:</del>				··
TESTS	NV.	I O h	ment	al Ana	a)VSiS	TITLE		PHON	15 # 25 - スロ	3-332	7 DATE	3-3	30-12	
REPO	BT AFRRON	VED BY	<u>0.0</u>	i da		TITLE	·	PHON	77-LR	3-3.32	DATE	 }_;2	30-17	 2.
0.78	F1306 (8-02	2)	1-00	<i></i>	<del></del>	- Up Co	:	101	~ ~					



#### MONTHLY MONITORING RECORD FOR WASTEWATER TREATMENT FACILITIES

HAF	FACILITY RLESTO	N WY	·					STON	I, MO	MIS	ty/regio	PPI/		
1 PR	MONTH OF	201		UTFALL N		1	T NUMB -0120			1	TREATMI LAG			
	· · · · · · · · · · · · · · · · · · ·	INFLU	JENT							EFFLUEN	NT.			
DAY	FLOW: MGD GPD  INF.OR EFF.	PH UNITS	BOD mg/ L	SUSP. SOLIDS mg/L	темр ° ғ • 🖨	PH · UNITS	BOD mg/ L	SUS. SOLIDS Mg/L	AMM	IN D.O.	EFF D.O.	RAIN	WEATHER	Time Temp
1												٠		
2	1,331		567	45	19,4	7.62	8.48	7	8.78	.92	5.79		PC	23,4
3	1.331	7.16			19.5	7.67		<u></u>	<u></u>				PC	23,4
4	1.331	7.28	ļ <u>.</u>		19.1	7.54		ļ	<u> </u>				PC	23,2
5	1,331	7.06			19.1	7.65		<u> </u>	ļ	,79	6,16		PC	23,7
7	ļ	ļ				ļ				ļ				<b></b>
8	<u> </u>					ļ							ļ	<del> </del> -
9	1,125	1720	570	21	109	201	12.3	13	982	97	8.79	<u> </u>	PC	18.8
10	1,144	7.13	770	31	188	7,46	12-7	13	1.07	17.6	0.17		PC	19.0
11	.937	6.85		· .				<u> </u>					PC	18,5
12	1917	7.21			17.4	7.65							PC	160
13	878	7,40			17.1	7,56		<del></del>	<u> </u>	283	12,71		PC	18.2
14	1000	110			///	DiII		<u></u>		2100	16111		7 9	10-2
15				·				· · ·						
16	,956	7,21	59	93	14.8	7,65	18.2	18	8.31	41	8.61		PC	16.5
17	1937	7.31	$\mathcal{L}_{\mathcal{L}_{\mathcal{L}_{\mathcal{L}_{\mathcal{L}}}}}$	<del></del>	16.8	8,22	101:4	1 0		7 1 5	ACD . C. J		DC.	16.5
18	1,125	7.25			18.2	8.12						```	PC	19,7
19	.917	7,20	<del></del>		19,4	8.33							PC	20,4
20	1,125	7.11			17,8	8,21				.63	8.41		PC	19.7
21						1,5,-1								
22	•						,			·				
23	, ४९४	7.42	105	66	1614	8,57	leil	19	8,92	.55	11,10		PC	17.2
24	8.78	7,24			18.8	8.35							PC	17,2
25	29,37	657			20,9	8.78							PC	17.1
26	1,125	7,22			19.4	8.89							PC:	17,2
27	1,133	7,25			19,5	8.74							PC	18.S
28													PC	17.8
29														
30	,917	7.31			18.3	8.75							PC	218
31										·				
f Samp.	20		4	4			4	4					· · · · · · · · · · · · · · · · · · ·	20
hly Avg.	21.481	Margareto sue	277	235	og også alleren sambara	The second secon	45,08							382
· Max.	1,074		6942				11.27	1425						19.1
Min,	1,333	7.42	105	93	20,9	18.8	18,2	19.					······································	23.7
7/ Avg.	18.76	6.74	507	31	16.4	7,46	EU	$\sim 7$						165
	I. 2-7.0si insirugi	54746 SH		**************************************		300	angi asawi c	CONTRACT.	#32 \$ TC#80* T	(A1 19 1, 81, 9 A		্র শুরুর টুরুর		\$ 10 AV
Je (8	-02)			SSIBEROE CHILDEI		AVIETRA, JA	e tiedelikilija	e kananidi.		oraciónic	Was Section	in Brobbell	the Mouth to South	MARKA-PARA

it williasyn :

MO 780-1306 (8-02)



# MISSOURI DEPARTMENT OF NATURAL RESOURCES NPDES MONITORING REPORT FOR STORMWATER AND WASTEWATER DISCHARGES Quarterly Sampling – Quarterly Reporting

CHARLESTON WW MO-0120081 MISSISSIPPI COUN		ON	Owner Addr City 204 A	$\Gamma \cap \Lambda \cap \Gamma$	iles70N	Address Change i	for Owner: [	∃ Billing □	Facility Address:  CAY HA  Charleste	
THIS REPORT COVE  1st Quarter = Januar  Due by April  NO DISCHARGE FO	y through M 28 <sup>th</sup> ,20	larch	2 <sup>nd</sup> Qu <b>D</b> uc	(" in the box ber larter = April thrue by July 28th	ough June 2,20 <u>1</u> 7_				Due by Jar	tober through December nuary 28 <sup>th</sup> ,20  GE FOR QUARTER
Samples Collected By:	doere				Phone: 683 573-683 3325	Analyses Performed t	y (LAB):	na/7519	south	Phone: 204 573-204 8817
	0 0				OUTFA	LL 001				
	PERMITTED FINAL LIMITS			DATE	ANALYSIS		MPLE TYPE		ALYTICAL IETHOD	
PARAMETER	UNITS	DAILY MAX	WEEKLY AVG	MONTHLY AVG	TIME	DATE				
Cyanide, Amenable to Chlorination	ug/L	*		*	L 549/2	4/19/12	GUA		LA Chat Ca	12/5m-4500 CNG
Arsenic, TR	ug/L	*		* .	< 15 ug/L	4/17/12	Grak	)	EPA-200.7	-RcD. 4,4
Beryllium, TR	ug/L	*		*	< 1 U9/L	4/17/12	Grab		EPA-200,7	Rev 4.4
Cadmium, TR	ug/L	*		*	K3 USIL	4/19/-10	GrAb		5m-3111	13-99
Chromium (III), TR	ug/L	*		*	J30912	4//9/12	BUAD		5m-31116	3-79
Chromium (VI), TR	ug/L	*		*	155/IL	4/9/12	GRAD		5m-3111 6	3-99
Iron, TR	ug/L	*		*	804019/2	4/19/12	GrAD		5m-3111	B-9'S
Mercury, TR	ug/L	*		*	0,2 1916	4/25/12	Grab		5m-3112	199
Nickel, TR	ug/L	*		*	10 Ug/L	4/17/12	Grabo		5m-31/1	399
Selenium, TR	ug/L	*		*	1/OvaiL	4/12/12	Grab		EPA-200.	7 Rev. 4,4
Silver, TR	ug/L	*		*	15 vale	4/19/12	Grab		5m-3111	B-99
Thallium, TR	ug/L	*		*	120 vol4	4/19/12	Gral	<u> </u>	EPA 200.	7 Rev. 4.4
SIGNATURE AND TITLE OF IN	Ros	In.			DATE 4-30-12	PHONE NUMBER 573-683 3325	EMAIL ADDI			
SIGNATURE OF OWNER OR I	DÉSIGNEE AI	PROVING REP	OR		DATE 4-30-(2	PHONE NUMBER 573 68 53325	EMAIL ADDR	ESS:		

(IF VIOLATION OCCURRED, PLEASE ATTACH EXPLAINATION OF POSSIBLE CAUSE)

Return form to: Missouri Department of Natural Resources
Southeast Regional Office

Southeast Regional Office 2155 North Westwood Blvd. Poplar Bluff MO 63901

\* - Monitor and Report



### MONTHLY MONITORING RECORD FOR WASTEWATER TREATMENT FACILITIES

NAME O	FACILITY			<del></del>		CITY			<del></del>	COLIN	TY/REGIO	N .		<del></del>
	RLESTO	N W	WT L	AGOC	N		ARLE	STON	I, MO				SERO	
	MONTH OF			UTFALLN		1	IT NUMB				TREATMI			
·M	AY.	201	2	00.	1 .	MO	-0120	081		AIR	LAG	OON	ſ	
		INFL			<del></del>	<del>                                     </del>				EFFLUE	VT			<del></del>
DAY	FLOW: MGD GPD  INF.OR EFF.	PH UNITS	BOD mg/ L	SUSP. SOLIDS mg/ L	TEMP ° F	PH UNITS	BOD mg/ L	SUS. SOLIDS Mg/L	АММ	IN D.O.	EFF D.O.	RAIN	WEATHER	TIME Jup
1	1937	7.26	111	82	18.9	8.76	20	16	7.97	.58	10.47		PC	21.5
2	89.8	7.15		1.	19.2	8,64	0-0	100	1	140	TOUTE	<u> </u>	PC	22.5
3	1937	7,02		<b> </b>	18.4	8,78		· · · ·					PC	2110
4	1,027				21,4	8.47				3.21	10,21		PC	21.5
5											·			
6														
7	1.331	7,25	152	271	20,2	7.93	29.8	36	0,336	131	10.24	<u>X</u>	PCR	21.4
- 8	.956	7.10			20.3	8.41							PC	22.4
9	93.7	7.31		<u> </u>	21,4	7.75	<del> </del>	ļ		<del></del>	ļ		PC	23,9
10 I1	18.98	7,24	ļ	<del> </del>	21.7	9.08		ļ	ļ	01	(8.21		PC	24,1
12	,9.37	6.89		<del> </del>	23.1	7,84	ļ	ļ		.86	10.31		PC	23.1
13	<del> </del>		<del> </del>	<del> </del>	<del> </del>	ļ	<u> </u>	<del> </del>		-				<del> </del>
14	9.17	721	68.8	110	22.4	7.93	1111	7.1	0,143	.89	9,55		PC	23.L
15	937	7,21	60.0	1.110		8.67	11,4	J. L.	0.17	101	7,55		PC	23,3
16	1937	7,20		<del> </del>	22,6 24:1	8.51	<del> </del>	<del> </del>					PC	23.6
17	,898	7.13	<del> </del>	+	23.5	8,62		<del></del>	li		ļ		PC	23,4
18	191-7	2,23	<b></b>		22.5	9,10				1,31	8.94	ÿ	PC	23,1
19	1 1 1-1	2123			24.3	1110				1101	0114		1 9	120//
20				<u> </u>				l				X		
21	1,125	6.93	108	96	23,4	8.86	7.73	27	0.538	.17	8.88	<del>* \</del>	PC	23,4
22	,898	7.12	1	1 1	23.1	8.46			07-017	, <u>, , , , , , , , , , , , , , , , , , </u>	<u> </u>		PC	23,8
. 23	.937	6.92			23,4	8.65							PC	23.5
24	237	7,20			236	8,54				·			PC	23,0
25	<u>,956</u>	7.33			241	8,84				2,15	9.13		PC	26,1
26														
27														
28	N 1 4							ļ		<u> </u>				
29	,917	7.27	.5.3	104	23,1	8,61	9.44	24	0.030	181	8.41		PC.	23.
30	.898	7,20		<u> </u>	213	867				·			PC	27,1
31	,917	6.86			21/6	8.5.5						X	PCR	265
ot of Samp.	22		5	5			5	5						22
lonthly Avg.	21,049	10.4823TE	4928	663	X 3-13083491	2 5/6/5/20	78,37	124					· · · · · · · · · · · · · · · · · · ·	520
aily Max.	1736		18.56	1326		数無線	15.7	24.8						23.6
aily Min.	1,331	7.34		271	241	9,10	29,8	36						28.1
lax 7/ Avg.	SEDATO SE	686	50.50%	1821	18.4	7.75	1.183	163						210
	H.DOKE DINSTRUCT		acres of	D W. 3.35	e englishede	MAD					Carrier Carrier	156. 34		
O 780-1306 /8			1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	ATTENDED TO THE PERSON OF THE	SIZKEL PARTICELLY	PERSONAL VALUE	e regeral file	mail to all de l'indication	CONTRACTOR OF THE STATE OF THE	Sandal Alexande	Assessed a 16. A.	U	CONTRACTOR OF COMMENCE	WASHINGS AND STREET

O 780-1306 (8-02)

OPE	RATION	IAL CO	NTROL	PARAMET	ERS		*			
DATE	PH UNITS	ALK. ml/l.	DO mg/l	SET SOLIDS RAW ml/l	SUSP. SOLIDS MIXED LIQUOR mg/l	SETTLEABILITY MIXED LIQUOR ml/l	SLUDGE DISP. (LBS. DRY WT.)	TEMP °F - °C	RAIN AND WEATHER	Fill out one copy of report each month and mail in monthly for each treatment facility.  Mail one copy of report to the appropriate DNR regional office as noted in your permit and keep one copy in your files.  Reports must be signed by whoever performed tests and by an appropriate official.  In the weather column, use the following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  Use grab sample for pH, Temp. and D.O. Use grab samples for all operational control test.  Use 24 hr. composite (proportional) samples for B.O.D. 5, and Suspended Solids tests unless NPDES permit indicates otherwise. Use "Standard Methods" or an approved equal for all parameters.  Treatment plant flow measurements may be made on either influent or effluent. Lagoon influent flow measurements need be only at the time of composite sampling of the influent. All tests must be performed in accordance with NPDES Permit Conditions and Operational Control Regulation 10 CSR 20-9.010. Review your permit for specific requirements.  Unusual conditions, significantly affecting operations must be reported immediately to the Department of Natural Resources.  Representative sludge samples should be taken either before entering digesters and/or holding tanks, or after removal from digesters or holding tanks.
1										wise at the ral Charles geste
2										other ation m di
. 3										rces.
4										files, neec and cand cand cand cand cand cand cand
5										the month and mail in monthly for each treatment facility.  e appropriate DNR regional office as noted in your permit and keep one copy in your files. whoever performed tests and by an appropriate official.  The following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  The following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  The following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  The following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  The following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  The following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  The following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and C-overcast.  The following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy measurements need a influent. All tests must be performed in accordance with NPDES Permit Conditions and Co. Review your permit for specific requirements.  The following symbols: Resource in the performed immediately to the Department of Natural Resources in the should be taken either before entering digesters and/or holding tanks or after removances.
6										y in
7										verce beast tof h
8										one
9										keep y and nless epart olding
10										and douddest.
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Attachment 3 Page 15 of

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#### MISSOURI DEPARTMENT OF NATURAL RESOURCES NPDES MONITORING REPORT FOR STORMWATER AND WASTEWATER DISCHARGES Quarterly Sampling - Quarterly Reporting

CHARLESTON WW MO-0120081 MISSISSIPPI COUN		ON	Owner Addr Chy ( 204	of Cha	rleston in St	Address Change fo	or Owner:   Billing	Facility Address:  204 N MAIN St  Charleston Mo 3854	
THIS REPORT COVE  1 <sup>st</sup> Quarter = January  Due by April 2	through M 28 <sup>th</sup> ,20	arch —	2 <sup>nd</sup> Qu <b>D</b> ue	arter = April thro	ough June 2,20	3 <sup>rd</sup> Quarter = ; Due by October	4 <sup>th</sup> Quarter = October through December  Due by January 28 <sup>th</sup> ,20		
NO DISCHARGE FO	R QUART	ER	NO DISC		QUARTER 🗆		GE FOR QUARTER	NO DISCHARGE FOR QUARTER ☐	
Samples Collected By	Scer	· S			Phone: 683 373683	Analyses Performed by ENVIPONIME	ndel Analy	Sis South 57328417	
	<i>J</i>					LL 001	7,1		
			PERMITTED FINAL LIMIT		07-2-12	ANALYSIS	SAMPLE TYPE	ANALYTICAL METHOD	
PARAMETER	UNITS	DAILY MAX	WEEKLY AVG	MONTHLY AVG	TIME	DATE			
Cyanide, Amenable to Chlorination	ug/L	*		*	< 0.005mg	7-16-12	Grab	Lachat CN2/5m-4500 CNG	
Arsenic, TR	ug/L	*		*	<15 N9/L	7-10-12	GA18	EPA-200.7 Rev. 4,4	
Beryllium, TR	ug/L	*		*	< 1 NGIL	7-10-12	Grab	EPA-200,7 Rev. 4,4	
Cadmium, TR	ug/L	*		*	< 3 DG/L	7-23-12	GIAD	5m.3111 B-99	
Chromium (III), TR	ug/L	*		*	< 5 XA/L	7-23-12	GrAh	5m-311(B/3500-Cr B-0)	
Chromium (VI), TR	ug/L	*		*	<0.005W/L	7-02-12	GIAD	15m-3500-Cr B-01	
Iron, TR	ug/L	*		*	1 < 20 Ug/2	7-24-12	Frab	SM-3111 B-99	
Mercury, TR	ug/L	*		*	< 0.2 Mg/L	7-18-12	Grah	5M-31/2 B-99	
Nickel, TR 🗸	ug/L	*		*	< 10 Ug/L	7-23-12	Grab	5m-3111 B-99	
Selenium, TR	ug/L	*		*	LID U91L	7-10-12	GIAD	EPA-200,7 RCU, 44	
Silver, TR	ug/L	*		*	(5 M/L	7-23-12	61Ab	5M-3111B-99	
Thallium, TR	ug/L	*		*	<20 V9/L	7-10-12	GIAD	EPA-200,7 Rev. 4.4	
SIGNATURE AND TITLE OF IND	9.5	Du	OPe,	ſ.	DATE 7-31-12	PHONE NUMBER 523-683 3325	EMAIL ADDRESS:		
SIGNATURE OF OWNER OR D	esignée af	PPROVING REP	OR /		7-31-12	PHONE NUMBER 573 683 3325	EMAIL ADDRESS:		

(IF VIOLATION OCCURRED, PLEASE ATTACH EXPLAINATION OF POSSIBLE CAUSE)

Return form to: Missouri Department of Natural Resources
Southeast Regional Office
2155 North Westwood Blvd,
Poplar Bluff MO 63901



NAME OF FACILITY CHARLESTON FOR THE MONTH OF	v wv		AGOO UTFALL N	<u> 1                                     </u>	ARLE	STON ER	i, MO	COUNTY/REGION MISSISSIPPI/SERO TYPE TREATMENT FACILITY					
AVGUST	201	٢	001		MO-0120081 AIR-LAGOON								
	INFLU	ENT							EFFLUE				
DAY  DAY  INF.OR EFF.	PH UNITS	BOD mg/ L	SUSP. SOLIDS mg/ L	TEMP "F"	PH UNITS	BOD mg/ L	SUS. SOLIDS Mg/L	AMM	IN D.O.	EFF D.O.	RAIN	WEATHER	TEMP DE
1 1.159.47.5	7.03			27,4	8,61				181	7.84		PC	30.7
1, 214,703	7,05			27.3	805							PC	30,8
3 /,100,550	707			27,5	8.03							PC	29,3
4			<u> </u>		ļ		<u> </u>		·				
5			<u> </u>			<u> </u>	ļ.,	1		<u> </u>			1
6 1,183,430		181	67	25.8	8,19	6	16	0,184	1.12	8.06		PC	29,9
7 1,583,430			ļ	25.4	8,32	<u> </u>	<del> </del>					pc	28,7
1,013,709			<del> </del>	26.1	8,16	<u> </u>	<del> </del>			ļ		PC	30.0
11011011			1	25.4	808		ļ		82	7.91		PC	30.3
10 1,573,164	7110		<del> </del>	25,5	8,05	<u> </u>	<del> </del>		05	111		10	36.1
12		<del></del>	<u> </u>				<del> </del>		,				-
13 905,343	(83	114	58	26.9	V 22	6.26	20	60.050	- GB	8,91		PC	26.9
14 1.678.330			120	26.7	8,05	6,20	20	30.00	,00	(D) 1 1		PC	25.5
15 /.167,473			<u> </u>		8, 26		<del> </del>		·			PC	26.1
16 1/15,890				24,5	8.15		1					PC	26.5
17 /1/73.889				26,1	4.25		1		83	8.01		PC	25/8
18	21.2									0.01	<b>)</b>		
19													
20 1,145,856	6,60	188	94	258	8.46	7,27	24	1,074	30	8.57		PC	25.9
21 1/119,806/	6164			24.3	8.51							PC	26,0
22 //17/4	652			25,0	8.25				··			PC	24.0
23 1,080,999	6.82			26.3	8.61		<u> </u>					PC	26,6
24 1,050,936	7,23	<u></u>		25.7	8,74				1.05	8,43		PC	26,9
25			ļ										
26					0.45		<u> </u>	· Sand Silver on the	00	0 110			h = 0
- 1,1~,4311/	2,21	174	112	256	858	9,62	21	\$0.050	.98	9,42		PC PC	27.8
$ \rho(\rho, \phi(\beta))$	7.27			25.8	8,61		ļ					PC	26,1
- W. (4) (4)				21.1	8.81							PC	25.8 27.3
<u> </u>		<del> </del>		74.5	8.45 8.19		<b></b>		.81	8.44		PC PC	27.4
31 984,375 7 .of Samp. 7 3	105	4	10	26.8	D.V1	11	11		.01	0.77		ru_	23
t of Samp. 30, 572,171		137	331			29.15	81		· · · · · · · · · · · · · · · · · · ·			· · ·	6368
inthly Avg. 1.330.094		16425				<u> </u>	20.25						27.7
ily Max. 1,573,114	narawatké	188	112	27.5	781	9.62				<b></b>			30.8
ily Min.		114	38	25,0	4.01	16							25.8
x 7/ Avg. 1296 237						27 - T. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	ार प्रश्न कर "च समित्य केति					<del>,</del>	
DTE SEETNSTRUGTIO	ON ON	REVERS	E SIDE OF	*THISTOR	M2				1.3.25				

OPERATIONAL CONTROL PARAMETERS SET SUSP. SOLIDS SETTLEABILITY SLUDGE RAIN ALK. DO TEMP Use 24 hr. composite (proportional) samples for B.O.D. 5, and Suspended Solids tests unless NPDES permit indicates otherwise. Use "Standard Methods" or an approved equal for all parameters. of composite sampling of the influent. All tests must be performed in accordance with NPDES Permit Conditions and Operational Control Regulation 10 CSR 20-9.010. Review your permit for specific requirements. Representative sludge samples should be taken either before entering digesters and/or holding tanks or after removal from digesters or SOLIDS RAW MIXED LIQUOR DISP. (LBS. AND Treatment plant flow measurements may be made on either influent or effluent. Lagoon influent flow measurements need be only at the time DATE MIXED LIQUOR UNITS ml/L mg/l DRY WT.) ml/l WEATHER mg/l 1 2 Unusual conditions, significantly affecting operations must be reported immediately to the Department of Natural Resources. 3 Mail one copy of report to the appropriate DNR regional office as noted in your permit and keep one copy in your files. 4 5 6 In the weather column, use the following symbols: R-rain, S-snow, C-clear, P.C.-partly cloudy and O-overcast 7 8 g 10 Use grab sample for pH, Temp, and D.O. Use grab samples for all operational control test. 11 Fill out one copy of report each month and mail in monthly for each treatment facility. Reports must be signed by whoever performed tests and by an appropriate official. 12 13 14 16 17 18 20 22 24 25 26 holding tanks. 28 30 <del>.</del> ოფ. 4. ფ. ფ 7 ထ်တ် 31 COMMENTS LAB TITLE COOP ^



### MONTHLY MONITORING RECORD FOR WASTEWATER TREATMENT FACILITIES

CHA	F FACILITY RLESTO	N W						STON	, MO	COUNTY/REGION MISSISSIPPI/SERO				
	EMONTH OF TEMBER	201		OUTFALL N		1	IIT NUMB -0120			TYPE TREATMENT FACILITY AIR LAGOON				
		INFL	UENT.		<del></del>	<del>                                     </del>				EFFLUENT				
DAY	FLOW: MGD GPD  INF.OR EFF.	PH UNITS	BOD mg/ L	SUSP. SOLIDS mg/L	TEMP ° F°C	PH UNITS	BOD mg/ L	SUS. SOLIDS Mg/L	AMM	IN D.O.	EFF D.O.	RAIN	WEATHER	PHME Taip
1	<u> </u>					1		1			1	<u> </u>	<u> </u>	1
2					<u> </u>						1			
3														T
4	1,122,781	6.29	53.2	143	27.9	8,19	7,03	22	10,050	. 18.	8.34		PC	27,4
5	1,243,305	6.81			127,1	8,32					· .	γ	PC	127.5
6	1,391,993	7,23			21,0	8,15						Ϋ́	PC	27.2
7	1,430,415	7.10			25,5	8,31				1,15	8,61	X	PC	264
8	ļ <u></u>			<b>_</b>	<u> </u>	<u> </u>	ļ	<b></b>			<b></b>	<u> </u>		<b></b>
9	ļ		1	1,22		ļ		- 0	100		<u> </u>		3.	
10	1,045,315		161	132	25:6		8,26	29	<b>₹</b> 0,050	19	8.36		PC	25,1
12	1,087,908				25,4	8.56		<del></del>			<del> </del>	ļ	100	25,6
13	1,502,408		<b> </b>	<del> </del>	225	8.65	<del> </del>	<del> </del>			<del> </del>	<del></del>	PC	25.4
14	1,408,519				25.4	8,29	<del> </del>	<del> </del>	ļ	Cil	STAG		PC	25.2
15	1,238,687	200		<del> </del>	25,5	8.71	<del>                                     </del>	<del> </del>		.81	8,05		PC	25,0
16				<del> </del>		<del>                                     </del>	<del> </del>	1			<del> </del>			<del> </del>
17	1,618,347	191	179	90	24,7	B.65	6,28	29	(0,050	119	8.03	1/	PC.	23,0
18	1,766,658	712	1	10	25,1	8.21	4120	21	(0,000	111	0.03	$\frac{1}{2}$	D/	37.8
19	1.009,795		<del> </del>	<del> </del>	23,8	2,22		<del> </del>			·		PC	22.1
20	962,832			†	23.5	8,51	<del> </del>	<u> </u>	<b></b> -i		<del> </del>		PC	21,9
21	1.661,085				27.5	841				,94	8.65	χ	PC	21.1
22	110011002	(16.			220	Diff		· ·			10.00	/		
. 23							<del>                                     </del>							
24	1,157,482	7,21	114	67	21,5	8,29	7,29	31	(0,050	,64	8,41		PC	21.1
25	1,216,615				21.3	8.71							PC	20.6
26	1,334,310	7,22			23,5	8,85						Y	PC	220
27	1,345,912	7.05			21.8	8,65						,	PC	21.5
_ 28	1,589,927	7,29			22.4	8.33	<u></u>			186	817	У	PCR	215
29	1												<u>, , , , , , , , , , , , , , , , , , , </u>	
30														
31				ļ	·								··	1.0
o. of Samp.	19	•	4	4			4	4						19
lonthly Avg.	23,622,620	SANOS SANOS	507,2	332	\$ 000000000000000000000000000000000000	# 9.69 <del>5.29</del>	28.86							453.8
aily Max.	1,243,294		126.8	83			7,21	27,75						23.8
aily Min.	176665		179	132	27.9	8.85	8,26	31						27.5
ax 7/ Avg.	37162350	8890 NEWY	95/2	日华多	21,3	8.19	18:28	200						20.6
Mark 165			ALCENIA SE	Se L'ASSAN	ZEHISÆOR	Mar.	7.1579.157	ACCESSOR	0 70 20 20 2	78.10 T. T. T.		**************************************		

MO 780-1306 (8-02)



	FACILITY RLESTO	N W	WT L	AGOO	N	СН	ARLE	STON	I, MO	COUNTY/REGION MISSISSIPPI/SERO				
	MONTH OF .			UTFALLN			IT NUMB		<u> </u>		TREATMI			
3070	OBER.	201	ي ا	001	[	MO	-01200	081		AIR	LAG	OON	•	
		INFL				<del> </del>				EFFLUEN	JT		<del>-</del>	
	FLOW: MGD GPD	PH	BOD	SUSP.	ТЕМР	PH	BOD	sus.	AMM	IN	EFF	RAIN	WEATHER	TIME-
DAY		UNITS	mg/ L	SOLIDS mg/L	°F ©	UNITS	mg/L	SOLIDS Mg/L	Almini	υ.ö.	D.O.	I KALIN	WEATHER	Tup
	INF.OR EFF.			g. 2		<u> </u>	<u> </u>	Mg/L	<u> </u>		<u> </u>			<u> </u>
1	1,335435		180	61	23,1		8.51	20	0.050	1,21	9.11	X	PC	21.5
2.	1,189,607	6.98	<u> </u>		22.5	8.31	<u> </u>					X	PC	21,0
3	1,092,429	7,31			21.8	7,93		· .					PC	20.0
4	1,090,075				22,0	813		<u> </u>	<u> </u>	·		ļ <u>.</u>	PC	19,0
5	1122970	7.34	ļ	·,	20.4	8.06	<u> </u>	<u> </u>	İ		ļ		PC	20,4
6		ļ		ļ				<u> </u>						
7			<b> </b>	<u> </u>	ļ	<u> </u>		ļ			ļ			<del>  </del>
9	1 48 4 764	-	0.24	100	197	7 1	-0/	<del> </del>	0.000	08	094		Dr	11 -
10	1,091,788	7,28	234	109	1///	316	7.95	22	0.050	.98	9,84		PC	16.7
11	1,010,406			<u> </u>	19.5	8.31	ļ	<del> </del>	<b> </b>				DC.	175
12	7		<del> </del>		19,5	8.35						v	PC	16.8 17.3
13	1,256,296	703	<del> </del>	<del> </del> -	198	8,18		<del> </del>				Ϋ́	PC_	116.5
14			<del> </del>	<del> </del>	<del> </del>	<u> </u>		-						
15	1,303,800	7.38	118	44	19,1	8.18	7.67	16	0.050	,14	10,11		PC	18.1
16	1,256,315		110	174	199	8.08	2161	16	<u>U:U3U</u>	114	10ill		PC	18:0
17	1,635,435		<del> </del>	<del> </del>	197	8,21		<b> </b>				Χ	DC	18.3
18	1.013.557			<del> </del>	19,5	8,21						-	PC	18,5
19	1.263858		-	<del> </del>	19.3	809				.85	9,37		PC	19,7
20	7.26,3,0.26	10.9	<del></del>		1/1/2	007		<del></del>		. 00	1677			1111
21				1	<del> </del>			· · · · · · · · · · · · · · · · · · ·						
22	1.096,646	7.1)	194	68	18.9	8ne	6,56	20	0.050	1-14	10.40		PC.	17.4
23	1.080,355	705	117-	100	178	8.07	920		0,000	7-1	70110		PC.	18.6
24	1080845				21,2	8.13			· · · · · ·	-			PC	18.5
25	1083.511	6.99		<del></del>	20,5	8,07							PC	18de
26	1,140,654	7.21			19,4	8,02		,		,58	11,24	X	PC	15,9
27	y 19, 3 1	1			<del>/</del> /	<i>D</i>								
28														
29	1,106,587	710	116	48	19,5	8,25	8.94	20	0,050	,26	10.85		PC	13.4
30	<del>/ / / / / / / / / / / / / / / / / / / </del>	7.21	<del></del>		18,5	8.07				.,			PC	/ <del>4</del> \\$
31	1,016,376	7.29			18.6	8.44				.79	11,23		PC	12.1
'Samp.	22		5	5		500 1	3	3						22
f Samp.	22,065,255		842	3.30			39.63	98						350,8
ıly Avg.	1002,966		168.4	66			793	19.6						15.9
Max.	,	7,38	234		23.1		295	22				[		21,5
Min.		4.95	116	中中	19.1		6.56	172					]	12.1
7 Avg.	4.369074								*	•				
DE 38E 30-1306 (8	THE PERSON NAMED IN THE PARTY OF THE PARTY O	IONION	REVERS	ESIDEOI	ATHISTOR	Messas.	Tall Maria			13.14		The state of the s		Same and

1306 (8-02) 12.\_\_\_\_10,\_\_\_\_9psG\_\_\_\_\_thsmrlost(A

Attachment 3 Page 22 of

OPE	NOITAR	IAL CO	NTROL	. PARAMET	ERS					
DATE	. PH UNITS	ALK. ml/l.	DO mg/I	SET SOLIDS RAW ml/I	SUSP. SOLIDS MIXED LIQUOR mg/l	SETTLEABILITY MIXED LIQUOR ml/l	SLUDGE DISP. (LBS. DRY WT.)	TEMP °F - °C	RAIN AND WEATHER	Fill out one copy of report each month and mail in monthly for each treatment facility.  Mail one copy of report to the appropriate DNR regional office as noted in your permit and keep one copy in your files.  Reports must be signed by whoever performed tests and by an appropriate official.  In the weather column, use the following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  Use grab sample for pH, Temp. and D.O. Use grab samples for all operational control test.  Use 24 hr. composite (proportional) samples for B.O.D. 5, and Suspended Solids tests unless NPDES permit indicates otherwise. Use "Standard Methods" or an approved equal for all parameters.  Treatment plant flow measurements may be made on either influent or effluent. Lagoon influent flow measurements need be only at the time of composite sampling of the influent. All tests must be performed in accordance with NPDES Permit Conditions and Operational Control Regulation 10 CSR 20-9.010. Review your permit for specific requirements.  Unusual conditions, significantly affecting operations must be reported immediately to the Department of Natural Resources.  Representative sludge samples should be taken either before entering digesters and/or holding tanks or after removal from digesters or holding tanks.
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12	<u> </u>	<u> </u>								the month and mail in monthly for each treatment facility.  a appropriate DNR regional office as noted in your permit and keep one copy in your files, whoever performed tests and by an appropriate official.  The following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  The following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  The following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  The following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  The following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  The following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  The following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  The following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  The following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  The following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  The following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  The following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  The following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  The following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  The following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  The following symbols: R-rain, R-r
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26										y of trep e siç colur colur lide fo npos npos tflow ampl cons, sluc
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29										Fill out one copy of report each month and mail in monthly for each treatment facility.  Mail one copy of report to the appropriate DNR regional office as noted in your permit and keep one copy in your files. Reports must be signed by whoever performed tests and by an appropriate official.  In the weather column, use the following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  Use grab sample for pH, Temp. and D.O. Use grab samples for all operational control test.  Use 24 hr. composite (proportional) samples for B.O.D. 5, and Suspended Solids tests unless NPDES permit indicates candiand Methods* or an approved equal for all parameters.  Treatment plant flow measurements may be made on either influent or effluent. Lagoon influent flow measurements and Opera Regulation 10 CSR 20-9.010. Review your permit for specific requirements.  Unusual conditions, significantly affecting operations must be reported immediately to the Department of Natural Resources. Representative sludge samples should be taken either before entering digesters and/or holding tanks, or after removal froi holding tanks.
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COM	MENTS									
TEST	S PERFOR	MED BY	men	tal Ano	Veris Sou	TITLE LI	9 lo	PHO	NE#	204-8817 10-31-12
REPO	BT APPRO	OVED BY	A	<u> </u>	ر ۲۰۰۰	TITLE	νο Λ	PHO	ONE#	12-37-5 DATE 11-12
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#### MISSOURI DEPARTMENT OF NATURAL RESOURCES NPDES MONITORING REPORT FOR STORMWATER AND WASTEWATER DISCHARGES **Quarterly Sampling - Quarterly Reporting**

		المساليسان جنالوطار									
CHARLESTON WW MO-0120081 MISSISSIPPI COUN		ON	Owner Addi	ess:1 Cf	modesdow	Address Change f	or Owner:   Billing	Facility Address:  CHY HALL  204 Namin 5 d  Charlesten Me			
THIS REPORT COVE	RS THE	PERIOD: PI	ease place an "X	" in the box be	neath the appropriate	quarter.					
I <sup>st</sup> Quarter = Januar	y through M		2 <sup>nd</sup> Qu	arter = April thro	ough June	3 <sup>rd</sup> Quarter = .	July through September	4th Quarter = October through December			
Due by April	28 <sup>th</sup> ,20		Due	e by July 28 <sup>th</sup>	,20	Due by October	r 28 <sup>th</sup> ,20	Due by January 28th, 20 12			
	]		•								
NO DISCHARGE FO	R QUART	er 🗆	NO DISC	HARGE FOR	quarter 🗆	NO DISCHAR	GE FOR QUARTER $\square$	NO DISCHARGE FOR QUARTER □			
Samples Collected By:	\	كثبيزيات فيبيد كالمساكم بتقالل			Phone:	Analyses Performed b	y (LAB):	Phone:			
( allen Krd	Kin.				5736853325	ENVironne	Inalysis 5 a	573 28 to			
	0	<u> </u>		<del></del>	OUTFA						
	T		PERMITTED		DATE		SAMPLE	ANALYTICAL			
	1.		FINAL LIMIT		10-1-12	ANALYSIS	TYPE	METHOD			
PARAMETER	צדואָט	DAILY	WEEKLY	MONTHLY	TIME	DATE					
		MAX	AVG	AVG							
Cyanide, Amenable to Chlorination	ug/L	*		. *	L54g/L	10-15-12	Grab	Lachat CN2/5m 4500 CN6			
Arsenic, TR	ug/L	*		*	8.12 19/4	10-17-12	GrAD	EPA-200,7 RCV, 4.4			
Beryllium, TR	ug/L	*		*	< 1 U9/L	10-11-12	GIAD	EPA-2007 RCV. 4,4			
Cadmium, TR	ug/L	*		*	< 3 USIL	10-16-12	GrAD	5m-3111 B-99			
Chromium (III), TR	ug/L	*		*	5 DA/L	10-18-12	Grab	5m-3111 1399			
Chromium (VI), TR	ug/L	*.		*	(509/4	10-18-12	Grad	5m-3/11B/3500.Cr B-01			
Iron, TR	ug/L	*		*	126 VS/L	10-8-12	Grab	SM-3111 B-99			
Mercury, TR	ug/L	*		*	0,20016	10-19-12	Grab	Sm 31/2 1999			
Nickel, TR	ug/L	*		*	<10 W/L	10-16-12	Grab	Sm.3111 B99			
Selenium, TR	ug/L	*		*	(2 UN/L	10-17-12	GIAh	EPA-200.7 Rev. 4.4			
Silver, TR	ug/L	. *		*	< 5 USIC	10-08-12	Grab	Sm 3111 B99			
Thallium, TR	ug/L	*		*	1 < 20 UVL	10-11-12	Grah	EPA-2007 Rev, 414			
SIGNATURE AND TITLE OF IN	DIVIDUAL PF	REPARING REPO	ORT		DATE	PHONE NUMBER	EMAIL ADDRESS:				
Ollm E		ر			10-31-12	5736833325					
SIGNATURE OF OWNER OR DESIGNEE APPROVING REPOR DAT						PHONE NUMBER	EMAIL ADDRESS:	•			
100cm	Lord	سيرمط			10-342	573683-3329					
		<u> </u>									

(IF VIOLATION OCCURRED, PLEASE ATTACH EXPLAINATION OF POSSIBLE CAUSE)

Return form to: Missouri Department of Natural Resources
Southeast Regional Office

2155 North Westwood Blvd. Poplar Bluff MO 63901

\* - Monitor and Report



### MONTHLY MONITORING RECORD FOR WASTEWATER TREATMENT FACILITIES

County Traction	Contract of the Contract of th							•							
FOR THE MONTH OF   MO-0120081   TYPE TREATMENT PACILITY   AIR LAGOON			<del> </del>												
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31	1	-	<del> </del>			<u> </u>		1		- d & 4 r o 6 c 8 c o
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CHAF	FACILITY RLESTO	N W						STON	i, MO	MIS	TY/REGIO	PPI/		
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		INFL								EFFLUE	TV			
DAY	FLOW: MGD GPD  INF.OR EFF.	PH UNITS	BOD mg/ L	SUSP. SOLIDS mg/ L	TEMP ° F	PH UNITS	BOD mg/ L	SUS. SOLIDS Mg/L	AMM	IN D.O.	EFF D.O.	RAIN	WEATHER	temp *C
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3		699	556	49	17.5	8.02	8.50	22	<b>10.050</b>				PC	12.3
4		7.21		<u> </u>	17.3	8,20	<u> </u>			64	11.08	*	PCR	12.8
5	11,183,824	7.22	ļ	<u> </u>	17,1	8.05		ļ	<b></b>	<u> </u>	<u> </u>		PC	13.0
6	1,112,128	6:88		<u> </u>	1.7.0	8113	ļ	<b></b>			<u> </u>		PC	13,0
7 8	1,313,608	7,26			12.0	8.11	<u> </u>	<del> </del>		,22	10.09		PC	126
9 .														
10	1,354,273	689	142	42	16.8	8.23	22.0	22	(0.050	53	11,21		PC	12.1
11	1,144,868	7.24			16.9	8,27							PC	130
12	1,104,790	7.11			16.7	8,21	·						PC	10,2
13	1.082.638				16.1	8,07		ļ				, x	PC	91
14	1,135,135	7,31	·		16.0	8,08		<u> </u>		.61	1205		PC.	9.1
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27		7.15	17-	00	1516	8,00		1-63-	201000	110,5	1101	X	PCS	4.2
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14	<del>  - `</del>						<del></del>	<del> </del>		Fill out one copy of report each month and mail in monthly for each treatment facility.  Mail one copy of report to the appropriate DNR regional office as noted in your permit and keep one copy in your files.  Reports must be signed by whoever performed tests and by an appropriate official.  In the weather column, use the following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.	and D.O. Use grab samples for all operational control test. onal) samples for B.O.D. 5, and Suspended Solids tests wed equal for all parameters.	ents may be made on either influent or efflue fluent. All tests must be performed in accor eview your permit for specific requirements.	affecting operations must be reported immediately to the Department of Natural Resources. should be taken either before entering digesters and/or holding tanks or after removal from	
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# MISSOURI DEPARTMENT OF NATURAL RESOURCES NPDES MONITORING REPORT FOR STORMWATER AND WASTEWATER DISCHARGES Quarterly Sampling – Quarterly Reporting

CHARLESTON WWY MO-0120081 MISSISSIPPI COUNT		ON	Owner Addre	11 () (	in soles dois	Address Change fo	or Owner:   Billing   .	Facility Address:  [1] Y - A    204 N. MAIN 5 + 63836  Charlestene MD			
THIS REPORT COVER  1" Quarter = January  Due by April 2  NO DISCHARGE FO	through Ma 28 <sup>th</sup> ,20	arch 3	2 <sup>nd</sup> Qua <b>D</b> ue	in the box ben rter = April thro by July 28 <sup>th</sup> HARGE FOR O	ugh June ,20	3 <sup>rd</sup> Quarter = J Due by October	uly through September 28 <sup>th</sup> ,20  GE FOR QUARTER	4 <sup>th</sup> Quarter = October through December  Due by January 28 <sup>th</sup> ,20  NO DISCHARGE FOR QUARTER			
Samples Collected By:	A QUAKII	LJAU	NO DIOC.	LAKOL FOR	Phone:	Analyses Performed by		Phone:			
	dous	5			523-6833325	ENVIRONM	rental Analys	is 30 with 523-204-8817			
					OUTFA	LL 001					
			PERMITTED FINAL LIMITS		DATE	ANALYSIS	SAMPLE TYPE	ANALYTICAL METHOD			
PARAMETER	צדואָט .	DAILY MAX	WEEKLY AVG	MONTHLY AVG	TIME	DATE ·					
Cyanide, Amenable to Chlorination	ug/L	*		*	<b>4</b> 5	1-08-13	Grab:	LACKEN CNZKM-4500 CNG			
Arsenic, TR .	ug/L	. *		*	<b>45</b>	1-11-13	GIAh	EPA-200.7 REVA.4			
Beryllium, TR.	ug/L .	*		*	<1,0	1-11-13	GIAD	EPA-20017 Rev 4.4			
Cadmium, TR	ug/L	*		*	(3 US/L	1-04-13	Grab	5m-3111399			
Chromium (III), TR	ug/L	*.		. *	<5 U5/L	1.04-13	GCAD	5m 3500-Cr B-D1			
Chromium (VI), TR	ug/L	*		*	(5 U)-	1.02.13	Grab	5m 3113 B/3500 Cr BOI			
Iron, TR	ug/L	*		*	21019/4	1-03-13	GrAD	5m 311 8.99			
Mercury, TR	ug/L	*	<u> </u>	*	(0.2 K/L	1.08-13	Grab	5m -3112 B.99			
Nickel, TR	ug/L	*		*	<10 Mg/L	1-04-13	GRAD	5m-3111 B-99			
Selenium, TR	ug/L	*		*	15 49/L	1-11-13	GrAb	EPA 200.7 Rev 4.4			
Silver, TR	ug/L	*		*	1 (2 19/L	1-11-13	GIAL	Sm3111 B99			
Thallium, TR	ug/L	*		*	5,7 U9/L	1-11-13	GCALO	EPA 2007 Rev 4.4			
SIGNATURE AND TITLE OF IN	$\cap$	REPARING REP	ORT · ·		DATE (-31-13	PHONE NUMBER 573-6633335	EMAIL ADDRESS:	The state of the s			
SIGNATURE OF OWNER OR I	Sper	DDDONANO DE	·								
$A \wedge A \wedge$	CA	PEROVING REP			DATE 1-31-13	PHONE NUMBER 573-683-332	EMAIL ADDRESS:				

(IF VIOLATION OCCURRED, PLEASE ATTACH EXPLAINATION OF POSSIBLE CAUSE)

Return form to: Missouri Department of Natural Resources

Southeast Regional Office

\* - Monitor and Report

Attachment 2 Dans 2- of



#### NAME OF FACILITY CITY COUNTY/REGION CHARLESTON, MO CHARLESTON WWT LAGOON MISSISSIPPI/SERO TYPE TREATMENT FACILITY FOR THE MONTH OF OUTFALL NUMBER PERMIT NUMBER FEBRUARY 2013 001 MO-0120081 AIR LAGOON INFLUENT **EFFLUENT** FLOW: TEMP BOD SUSP. PH BOD SUS. AMM MGD GPD PH EFF RAIN WEATHER UNITS SOLIDS UNITS SOLIDS DAY mg/L mg/L D.O. (E) $\Box$ mg/L Mg/L INF.OR EFF. 7.69 6.99 3.5 Iall 12.21 PC 2 3 4 69 13.6 7.85 137 17 2.76 104 309.131 7.04 12.74 5 8.73 PL 312,473 689 14,4 6 796 PC 137 234267 7.06 86 1192 PC 331,232 7,23 8,21 8 7.21 PC 298.334 9 10 11 7.63 242 19 1.52 1/82 254.4517.03 229 110 14,1 17 PC 12 $\overline{P}$ 221,907 7.20 751 13.5 13 7.02 13.5 7.70 273,156 14 7.18 14.9 305.838 7,20 15 69 1257 985 7.24 11.97 14.5 7,68 16 17 18 19 90 14.7 7,68 32.5 24 (0.050 1147 1.33 273,233 7,20 230 20 190, 945 7,10 14.5 21 1567.361 7.29 14.1 つらん 22 27 1340,024 7.15 120 781 12.59 23 24 25 7.74 13.5 193 312,459 6,89 87 14.6 23 203 26 450.867 7,17 12.2 ix 7:52 27 8.17 1.190,953 7.03 12.7 28 41 1.186,596 6.89 12.5 7:64 11.25 29 30 31 No.of Samp. Tot of Samp. 356 Monthly Avg. 900 19325 Daily Max. 8,23 110 Daily Min. 7,51 Max 7/ Avg.

MO 780-1306 (8-02)

Attachment \_\_\_\_\_ Page\_\_\_

Attachment 3 Page 31 of

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	MO	30-1306 <u>(</u> 8-	02)	1-00	P	.*!		- , — <del></del>	•		



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1	1,202,644	726	<del> </del>	<del>                                     </del>	12.7	7.63	<del>                                     </del>	†	†	32	10.49	$ar{}$	PC	7.
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4	1/106 100	712	100	59	122	7/3	13.1	37	MAGA		12-2	├	PC	+-
. 5.	16178,108		102	121	13.2	7.63	131	12/	(0.050	1.41	12.53	<del> </del>		6.
6	1,236,411		<del>}</del>	<del>-}</del>	13.≤	7.71	-	<del>                                     </del>	<del> </del>	<del> </del>	<del> </del>	<del> </del>	PC	6
	1,163,624		<del> </del>		14.2	7.61	<del> </del>	<del> </del> -	<del> </del>	<del> </del>	<del> </del>	<del> </del>	PC	5. 5.
7· 8·	1081,016	1,04	<del> </del>	-	12.7	7.85	<del> </del>	<del> </del>	<del> </del>	1: 2	12 - 2	<del> </del>	PC	15.
	1,155,782	16.87		+	13,1	7.70	<b> </b>	<del> </del>	<del> </del> -	.42	13,23	<del> </del>	PC	6.
9	<b></b>	<del> </del>	<del> </del>		<u> </u>	<del> </del>	<del>                                     </del>	<del> </del>	<del> </del>	ļ	<del> </del>	<b> </b>	<del> </del>	+
10	<del> </del>	100	<del>                                     </del>	1			1 n	-	1		<del> </del>	<b> </b>	<del> </del>	<u>L</u>
11	1,221,361		176	165	124	7.55	10.7	26	(0,050	1.4	11,20	<u> </u>	PC_	90
12	1,098, 842				13.6	7.61		ļ	<b></b>	ļ	<u> </u>	<u> </u>	PC	10.
13	1:078,584		<u> </u>		14.5	7,52	ļ	ļ	<b></b>			.,	PC	9.
14	1,102,815			<u> </u>	13.6	7.63	ļ	<u> </u>				<u></u>	PC	10.
15	1,248,799	7:18			13.8	7.84	<u> </u>			1,31	13,21	R_	PC	10.
16	/	<u> </u>	<u> </u>		<u> </u>			<u> </u>						L_
17			<u> </u>		<u> </u>			<u> </u>				Q.		
1-8	1877933	7:16	62.1	95	13.7	7.49	11.8	1.3	(0.050	1,05	11,84	4.5	PC	10.0
19	1253376			<u> </u>	14.6	7.69		<u> </u>					PC	9.7
20	1085,702	7,23		<u> </u>	14,6	7.68		<u> </u>					C	9,0
24	1155,301	7,20			13.8	7.59							PC	9.9
22	1.141.986	7.21			14.0	7.86				-83	11,81	ſΩ	PC	100
. 23	7												'	6
24										•				
2:5	1,161,560	7,25	150	8	13.6	7,66	10		(0.050	413	12,37		PC	8.2
26	1,152,370				14.0	7,59		L					PC_	9.1
27	1119,323	7,21			13,2	7,95							PC	10.0
28.	1.293,598				14.5	7.72				1,27	12,23		PC	8.4
29	Hoban													
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No.of Samp.	20		4	4			4	4						20
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DAY	MGD GPD.	PH UNITS	BOD mg/L	SUSP. SOLIDS	TEMP F (C)	PH UNITS	BOD mg/L	SUS. SOLIDS	AMM	IN D.O.	EFF D.O.	RAIN	WEATHER	- <del>T</del>
2,	INF.OR EFF.			mg/L			*	Mg/L						To C
1		100	152	63	1.00	8,12	11.0	8	0,050	'01	11 // 1	<del> </del>	no	K
2	1,114,177		124	(,0)	14.0	·	14,8	10	0,000	1.86	11.41	<del> </del>	PC	9.
	11/1	7,16	<del> </del>		15.4	7,68	<del> </del>	<del> </del>	<del> </del>		<del></del>	<del> </del>		1/6
3	1.078,498	7.05	<b></b>		14.9	781	<del> </del>	ļ	<del> </del>	ļ	<del> </del>	<del> </del>	PC	10
4	1,000,459	(12)	<del> </del>	<b>.</b>	114.4	7,79	<del> </del>	<del> </del>	<del> </del>	<del></del>	<del> </del>	<del> </del>	PC	10
· 5	1,058,744	7,15	<b></b>		14.7	8.05	<u> </u>	<u> </u>	ļ	1,05	11.51	<u> </u>	PC	1/4
6					<u> </u>	<u> </u>	ļ	<u> </u>	<u> </u>					
7	<u> </u>	ļ		1	<u> </u>	<u> </u>	ļ	<u> </u>	<u> </u>		<del> </del>	<u> </u>		
8		7.27	156	177	15.2	7.71	12.1	14	KO.050	186	10.15	<u> </u>	PC	16.
9	1,196,067	7,10	,		15.3	7.85	·				<u> </u>		PC	16,
10	1120,870	724			15,2	7,75							PC	18.1
11.	1895,226	7.16			15.8	7.63						R	P	17.
12	1.122,990				16.6	7.61							R	17,
13	7 7				٠.					•	T	7		
14			·	î .							1			
15	1.107.067	7,12	237	151	16.3	7.86	8,1	17	KOOSI	.81	10,38		PC_	18.
16		7,20		1	16.1	753					1		PC	21,
17	1.691.338	7,24			16.4	7.81					1			24
18	1.542,513				17.1	7.6.3	İ	1.			1	R		21,
19	1.398.452				17.0	7.71	<u> </u>			<del></del>			PC_	18.
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21				1			<u> </u>			* <u> </u>	101.0			<del> </del>
22	1047288	727	133	81	16.6	7,79	20.3	24	5.51	-16	9.87		PC	18,
. 23	1.179.718		الحارم ا	121	15.3	7.85	<u> </u>	7	7,51	710	1101	R	PC.	19,
24	7	7.37		-	16.7	7.88				<del></del>	1	R	PC	
25	1,351,674	7,22		<del></del>	16.9	7,24					<del> </del>	R	PC	170
26	1,140,762			+	16.3		<del></del>	<u> </u>	<del>                                     </del>	<del>- [ ;</del>	17	<u> </u>	PC-	17
27	1560,693	7.0.3		-	16.2	751				طه.	10.41		<u>r_</u>	17,0
28				<del> </del>						<del>,</del>	<del> </del>	<del>  </del>		<u> </u>
29	1200	78.5	127	60	1-7 5	291	11 7	18	170	72	120	<del>                                     </del>	00	1,
30	13/8/12	7.04	127	50	17.1	7.95	16.7	18	13,9	.20	10:3.3	<b></b>	PC	161
30	184,490	1411	<u> </u>		17.2	7,81	<del></del>				<del>                                     </del>	<u> </u>	PC	160
	2.		_5	+		<b>}</b>		5			<del>  </del>			<b>3</b>
No.of Samp.	721150			5		<b> </b>	~/				<del> </del>			22 36: 16.
Monthly Avg.	23,603954	100 CM	<u>405</u>	422			1615	81			<del> </del>	<del></del>		<u> </u>
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	1,895,221	737	237	1/5/	16.9	8/12	41.3	16			<del> </del>	<del> </del>		<u> </u>
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Daily Min.  Max 7/ Avg.	1000	698	CPERSON	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	14.0	7.61	79 6 99 8	45. 4M. 27.2			<del> </del>	} <del>-</del>		

MO 780-1306 (8-02)

Attachment 3 Page 34 of

OPE	NOITAF	IAL CO	NTROL	PARAMET	ERS	······································			•	
DATE	. PH UNITS	ALK. ml/l.	DO mg/l	SET SOLIDS RAW mVI	SUSP. SOLIDS MIXED LIQUOR mg/l	SETTLEABILITY MIXED LIQUOR ml/l	SLUDGE DISP. (LBS. DRY WT.)	TEMP °F - °C	RAIN AND WEATHER	Fill out one copy of report each month and mail in monthly for each treatment facility.  Mail one copy of report to the appropriate DNR regional office as noted in your permit and keep one copy in your files.  Reports must be signed by whoever performed tests and by an appropriate official.  In the weather column, use the following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  Use grab sample for pH, Temp, and D.O. Use grab samples for all operational control test.  Use 24 h. composite (proportional) samples for B.O.D. 5, and Suspended Solids tests unless NPDES permit indicates otherwise. Use 24 h. composite (proportional) samples for B.O.D. 5, and Suspended Solids tests unless NPDES permit indicates otherwise. Treatment plant flow measurements may be made on either influent or effluent. Lagoon influent flow measurements and Operational Control of composite sampling of the influent. All tests must be performed in accordance with NPDES Permit Conditions and Operational Control of composite sampling of the influent. All tests must be reported immediately to the Department of Natural Resources.  Unusual conditions, significantly affecting operations must be reported immediately to the Department of Natural Resources. Representative sludge samples should be taken either before entering digesters and/or holding tanks, or after removal from digesters or holding tanks.
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2										only attor
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4			<u> </u>							lles.
5		<del> </del> -						<u> </u>		eport each month and mail in monthly for each treatment facility.  The subpropriate DNR regional office as noted in your permit and keep one copy in your files.  The subpropriate DNR regional office as noted in your permit and keep one copy in your files.  The subpropriate DNR regional office as noted in your permit and keep one copy in your files.  The subpropriate DNR regional office as noted in appropriate official.  The subpropriate performed the samples for all operational control test.  The subpropriate of B.O.D. 5, and Suspended Solids tests unless NPDES permit indicates of the organizational permit and subpropriate or an approved equal for all parameters.  The subpropriate may be made on either influent or effluent. Lagoon influent flow measurements and Operation of the influent. All tests must be performed in accordance with NPDES Permit Conditions and Operation of the influent affecting operations must be reported immediately to the Department of Natural Resources. Significantly affecting operations must be reported immediately to the Department of Natural Resources. Significantly affecting be taken either before entering digesters and/or holding tanks or after removal from the samples should be taken either before entering digesters and/or holding tanks.
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12	<u> </u>	<u> </u>	<del> </del>					├		illity.  al.  bartly  ontro  ids (   ids (   ids (   ids (   ids (   ids (   ids (   ids (   ids (   ids (    ids (     ids (    ids (    ids (     ids (      ids (        ids (         ids (
		ļ	<del> </del>						<del> </del>	ch month and mail in monthly for each treatment facilities appropriate DNR regional office as noted in your perhoever performed tests and by an appropriate official.  The following symbols: R-rain, S-snow, C-clear, P.Cparton and D.O. Use grab samples for all operational control samples for B.O.D. 5, and Suspended Solids proved equal for all parameters.  The samples for B.O.D. 5, and Suspended Solids proved equal for all parameters.  The samples for B.O.D. 5, and Suspended Solids proved equal for all parameters.  The samples for B.O.D. 5, and Suspended Solids proved equal for all parameters.  The samples for B.O.D. 5, and Suspended Solids proved equal for all parameters.  The samples for B.O.D. 5, and Suspended Solids are should be taken either before entering digesters.
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28	1				<del>                                     </del>			<del>                                     </del>	1	ut one copy of report each mont one copy of report each mont one copy of report to the approports must be signed by whoever le weather column, use the follow grab sample for pH, Temp. and [24 hr. composite (proportional) ndard Methods" or an approved trment plant flow measurements romposite sampling of the influen ulation 10 CSR 20-9.010. Review sual conditions, significantly afferesentative sludge samples shot ing tanks.
29	1	1	1		<del> </del>	1		<del>                                     </del>	+	Fill out one copy of report each month and mail in monthly for each treatment facility.  Mail one copy of report each month and mail in monthly for each treatment facility.  Reports must be signed by whoever performed tests and by an appropriate official.  In the weather column, use the following symbols: R-rain, S-snow, C-clear, R-Cpartly cloudy and O-overcast.  Use 24 hr. composite (proportional) samples for B.O.D. 5, and Suspended Solids tests unless NPDES permit indica "Standard Methods" or an approved equal for all parameters.  Treatment plant flow measurements may be made on either influent or effluent. Lagoon influent flow measurements need of composite sampling of the influent. All tests must be performed in accordance with NPDES Permit Conditions and of composite sampling of the influent operations must be reported immediately to the Department of Natural Resou Unusual conditions, significantly affecting operations must be reported immediately to the Department of Natural Resound Representative sludge samples should be taken either before entering digesters and/or holding tanks, or after remov?
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L	MENTS				<u> </u>		<u> </u>	<u> </u>		
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TEST	'S PERFOR	RMED BY			<del></del>	TITLE,	1	PH	IONE #	DAŢE
E	AUNYO PRIT APPRO	<u>h</u> /	med	Analys	is 500h	/ h	b	5	723-1	2048817 4-30-13
MOT	DOC 0-1306, 6-	رما	Pod	Jen		TITLE	es	5	10NE #	83-3325 4-30-13



### MISSOURI DEPARTMENT OF NATURAL RESOURCES NPDES MONITORING REPORT FOR STORMWATER AND WASTEWATER DISCHARGES Quarterly Sampling – Quarterly Reporting

CHARLESTON WW MO-0120081 MISSISSIPPI COUNT		ON	Owner Add	ress:		Address Change fo	or Owner: D Billing D	Facility Address:				
THIS REPORT COVE  1st Quarter = January  Due by April 2	through M		2 <sup>nd</sup> Qu	K" in the box ber parter = April thro e by July 28 <sup>th</sup>	ough June		July through September r 28 <sup>th</sup> ,20	4 <sup>th</sup> Quarter = October of Due by January				
NO DISCHARGE FO	I R QUART	er 🗆	NO DISC	CHARGE FOR	quarter 🗆	NO DISCHAR	GE FOR QUARTER	NO DISCHARGE FO	OR QUARTER □			
Samples Collected By:				<u> </u>	Phone:	Analyses Performed b	y (LAB):		Phone:			
				<u> </u>	OUTFA	LL 001	<del>- ,</del>		<u></u>			
			PERMITTED FINAL LIMITS		DATE 4-1-13	ANALYSIS	SAMPLE TYPE	ANALYT METH				
PARAMETER	UNITS	DAILY MAX	WEEKLY AVG	MONTHLY AVG	TIME	DATE						
Cyanide, Amenable to Chlorination	ug/L	*	* <5			4-23-13	Grab	Lachet - CNZ/				
Arsenic, TR	ug/L	. *		*	0.452	4-18-13	Grab	EPA-200.7 Pcl	, 4,4			
Beryllium, TR .	ug/L	*		*		4-05-13	Grab	EPA-200,7 Re	v 414			
Cadmium, TR	ug/L	*		*	<b>\( \)</b>	4-18-13	Grab	5m-3111 B9	9			
Chromium (III), TR	ug/L	*		*	<b>\\ \\ \\ \</b>	4-18-13	GVAD	5m-3/11 B9				
Chromium (VI), TR	ug/L	*		*	5	4-1-13	Grab	5m-3500-Cr.				
Iron, TR	ug/L	*.		*	0.135	4-11-13	Grab	Sm-3111 B-9	9			
Mercury, TR	ug/L	*	1	*	(0.2	4-10-13	Grab	5m-3111 B99				
Nickel, TR	ug/L	*		*	(0,015	4-18-13	Grab	Sm 3111 B29				
Selenium, TR	ug/L	*		*	(2	4-18-13	Grab	EPA-200,7 Rev	1-4,4			
Silver, TR	ug/L	*		*	3	4-18-13	Grab	5m.3111 B	399			
Thallium, TR ug/L * *					<b>1</b> 2	4-18-13	Grab	EPP-2007 8	ev. 4,4			
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allen Col	سعع				4-30-13	573-683-3325						
SIGNATURE OF OWNER OR D	ESIGNEE A	PROVING REF	POR		DATE	PHONE NUMBER	EMAIL ADDRESS:					
ally Rod	)ns	د			4-30-13	SAME	<u> </u>					

(IF VIOLATION OCCURRED, PLEASE ATTACH EXPLAINATION OF POSSIBLE CAUSE)

Return form to: Missouri Department of Natural Resources

Southeast Regional Office 2155 North Westwood Blvd. Poplar Bluff MO 63901

\* - Monitor and Report

Attachment 3 Page 36 of



NAME OF FACILITY		יייונציצי	·	ONT	CHARLESTON, MO   COUNTY/REGION   CHARLESTON, MO   MISSISSIPPI/SERO								
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MO 780-1306 (8-02)

Attachment 3 Page 37 of

OPE	RATION	IAL CO	NTROL	. PARAMET	ERS					
DATE	PH UNITS	ALK. ml/l	DO mg/l	SET SOLIDS RAW ml/I	SUSP. SOLIDS MIXED LIQUOR mg/l	SETTLEABILITY MIXED LIQUOR ml/I	SLUDGE DISP. (LBS. DRY WT.)	TEMP °F - °C	RAIN AND WEATHER	Fill out one copy of report each month and mail in monthly for each treatment facility.  Mail one copy of report to the appropriate DNR regional office as noted in your permit and keep one copy in your files.  Aeports must be signed by whoever performed tests and by an appropriate official.  In the weather column, use the following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  Use grab sample for pH, Temp. and D.O. Use grab samples for all operational control test.  Use grab sample for pH, Temp. and D.O. Use grab samples for all operational control test.  Ireatment plant flow measurements may be made on either influent or effluent. Lagoon influent flow measurements need be only at the time of composite sampling of the influent. All tests must be performed in accordance with NPDES Permit Conditions and Operational Control Regulation 10 CSR 20-9.010. Review your permit for specific requirements.  Unusual conditions, significantly affecting operations must be reported immediately to the Department of Natural Resources.  Representative sludge samples should be taken either before entering digesters and/or holding tanks, or after removal from digesters or holding tanks.
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		INFLU	ENT					·		EFF	LUENT								
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		INFLU			<del></del>	<del>                                     </del>			·	EFI	LUENT	<del></del>				
·.	FLOW: MGD GPD	PH	BOD	TOTAL	TEMP	BQD5	РН	TOTAL	NH3	0&G	SAMPLE	Antimony	Copper	Lead	T	
DAY	INF.OR EFF.	UNITS	mg/L	SUS. SOLIDS mg/L	°F°©	mg/L	su	SUS. SOLIDS mg/L	mg/L	mg/L	TEMP C	TR mg/L	TR ug/L	TR ug/L		
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Percent Removal			93%	86%												

PERA	ATIO	NAL C	CONT	ROL PAI	RAMETE	ŔS				
DATE	РН	ALK. mí/i	EFF	SET SOLIDS	SUSP. SOLIDS MIXED LIQUOR mg/l	SETTL	EABILIȚY D'LIQUOR mVI	TEMP F-C	RAIN AND WEATHER	nonthly for each treatment facility.  The season of the search treatment facility.  The season of the search of the copy in your files.  The season of the search of the copy in your files.  The season of the search of the copy in your files.  The season of the search of the copy in your files.  The season of the search of the copy in your files.  The season of the season of the copy in your files.  The season of the season of the copy in your files.  The season of the copy in your files.  The season of the copy in your files.  The season of the season of the copy in your files.  The season of the season of the copy in your files.  The season of the season of the copy in your files.  The season of the copy in your files.  The season of the season of
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14 :		<del>                                     </del>	831	<del></del>	<del> </del>	-	<del>:</del>		PC	1. Fill out one copy of report each month and mail in original monthly for each treatment facility.  2. Mail original of report to the appropriate DNR regional office as noted in your permit and keep one copy in your files.  3. Reports must be signed by whoever performed tests and by an appropriate official.  4. In the weather column, use the following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  5. Use 24 hr. composite (projortional) samples for B.O.D. 5, and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods" or an approagual for all parameters.  7. Treatment plant flow measurements may be made on either influent or effluent Lagoon influent flow measurements need be only at the time of composite sampling of influence with NPDES Permit Conditions and Operational Control Regulation 10 CSR 20-9.010. Review your permit for specifications, significantly affecting operations must be reported immediately to the Department of Natural Resources.
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•	•		• • •		· .	• •	•			1. Fill out one copy of report each month and mail in original regional office.  2. Mail original of report to the appropriate DNR regional office.  3. Reports must be signed by whoever performed tests and by 4. In the weather column, use the following symbols: R-rain, 3. S. Use grab sample for pH, Temp, and D.O. Use grab samples 6. Use 24 hr. composite (proportional) samples for B.O.D. 5, a equal for all parameters.  7. Treatment plant flow measurements may be made on either influent. All test must be performed in accordance with NPDE requirements.  8. Unusual conditions, significantly affecting operations.
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JATURE	SEOM	AEK OK D	EXIGNEE	APPROVING I	NG 175 1.5 REPORT	<del>;                                      </del>	<del></del>	TITLE 1 - V	<del>:</del>	PHONE # DATE
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### MISSOURI DEPARTMENT OF NATURAL RESOURCES NPDES MONITORING REPORT FOR STORMWATER AND WASTEWATER DISCHARGES Quarterly Sampling - Quarterly Reporting

CHARLESTON WWY MO-0120081 MISSISSIPPI COUNT		ON	Owner Addr	$-U \cap U$		Address Change fo	or Owner:  Billing	Facility Address:  CAY /A/  204 N MACN ST  Chadeston MO 63854			
THIS REPORT COVE  1st Quarter = January  Due by April 2	through Ma		2 <sup>nd</sup> Qua	in the box ben arter = April thro by July 28 <sup>th</sup>	ugh June		July through September r 28 <sup>th</sup> ,20	4 <sup>th</sup> Quarter = October through December  Due by January 28 <sup>th</sup> ,20			
NO DISCHARGE FO	R QUART	er 🗆	NO DISC	HARGE FOR (	QUARTER 🗆	NO DISCHAR	GE FOR QUARTER 🗆	no discharge for quarter 🗆			
Samples Collected By:  Allen Rad	ls.				Phone: 573-568-3 011TFA	Analyses Performed by  Number  LL 001		South ING 523 8817			
	UŅITS		PERMITTED FINAL LIMITS		DATE	ANALYSIS DATE	SAMPLE TYPE	ANALYTICAL METHOD			
PARAMETER	Otária	DAILY MAX	WEEKLY AVG	MONTHLY AVG	TIME			·			
Cyanide, Amenable to Chlorination	_ug/L	*		*	5	7-10-13	GIAL	LACHET - CNZ/SM 4,500 CUG			
Arsenic, TR	ug/L	. *		*	5	7-09-13	GrAh	EDA-200,7 Rev. 4,4			
Beryllium, TR	ug/L	*		*		7-08-13	GIAb	EPA-200,7 Red. 4.4			
Cadmium, TR	ug/L	*		*	₹3	7-23-13	GIAP	5m311 R99			
Chromium (III), TR	ug/L	*		*	₹\$	7-25-13	Grah	5m-3111 B/3500-Cr B-01			
Chromium (VI), TR	ug/L	*		*	75	7-01-13	GrAD	5m-3500 Cr B-01			
Iron, TR	ug/L	*		* .	138	7.03-13	GrAb	5m3111 12-79			
Mercury, TR	ug/L	*	<u> </u>	*	70,2	7.12.13	Grab	5m 3/12 B-98			
Nickel, TR	ug/L	*		*	115	7-23-13	GVAL	15m 3111 13-59			
Selenium, TR	ug/L	*		*	5	7-09-13	GIAL	EPA-200,7 Rev. 4.4			
Silver, TR					<2	7-08-13	Grab	5M3111 B99			
Thallium, TR	ug/L	*		*	(5	7-68-13	GrAh	FPA-200-7 Rev 4.4			
SIGNATURE AND TITLE OF INI	adres	~ O	Pos.	Maria da granda de estado en estado en estado en estado en estado en entre en entre en entre en entre en entre	DATE 7-31-13	PHONE NUMBER 573 683	EMAIL ADDRESS:				
SIGNATURE OF OWNER OR D	DESIGNEE AF	****	OR 170/,		7-31-13	PHONE NUMBER 5736833325	EMAIL ADDRESS:				

(IF VIOLATION OCCURRED, PLEASE ATTACH EXPLAINATION OF POSSIBLE CAUSE)

Return form to: Missouri Department of Natural Resources
Southeast Regional Office
2155 North Westwood Blvd.

Poplar Bluff MO 63901

<sup>15</sup> - Monitor and Report



NAME OF FACILITY  CHARLESTON WWT LAGOON  FOR THE MONTH OF OUTFALL NUMBER								STON,	МО	MI		IPPI/S			
Α.	month of -UST	201	3	OUTFALL 1			IT NUM -012					ÆNT FACI ERATE		OON	
		INFLU	ENT		···········	$oldsymbol{\dagger}$			<del></del>	EFI	FLUENT	\ <del></del>	<del></del>		
DAY	FLOW: MGD GPD  INF.OR EFF.	PH UNITS	BOD mg/ L		TEMP °F °C	BOD5 mg/L	PH SU	TOTAL SUS. SOLIDS mg/L	NH3 mg/L	O&G	SAMPLE TEMP C	Antimony TR mg/L	Copper TR ug/L	Lead TR ug/L	Zi T
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	1.419	6.96			2417		8.24				26.0			<u> </u>	<u> </u>
7	1.488	7.02			23.1	<b> </b>	108	<u> </u>			26,5				<u>.                                    </u>
8	1.412	6.87			23.4		8.10	· · · · · ·			271				
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14	1.093	6.83		1	24,5		8.50				26.8				<del> </del>
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16	1,103	6.89			23,4		8.24				26,3				_
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19	1.172	7.16	163	1106	263	12.5	833	12	(0.050		26.0				
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Môbibly Ave			173		245	9.77		9.25	.05		27.3				
Daily Max.	1,488	7,16	208	120	25.7	13.6	3.50	12	50.050		30.1				
Daily Min.		6.83			7		798	7.7							
Weekly Avg.			(1)	71 / - 2											
Percent Removal			14	90 929							2.5.				

Attachment

Attachment 3 Page 44 of

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OPERA	ATIO	NAL (	CONT	ROL PAI	RAMETE	RS				
	РН		EFF	SET SOLIDS	SUSP. SOLIDS MIXED	SETTLEABILITY MIXED LIQUOR		RAIN AND	monthly for each treatment facility.  ce as noted in your permit and keep one copy in your files.  an appropriate official,  S-snow, C-clear, P.Cpartly cloudy and O-overcast.  for all operational control test.  Ind Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods" or an approved influent or effluent. Lagoon influent flow measurements need be only at the time of composite sampling of the influent Conditions and Operational Control Regulation 10 CSR 20-9,010. Review your permit for specific must be reported immediately to the Department of Natural Resources.	
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DAY		UNITS	mg/L	SUS. SOLIDS	°F C	mg/L	SU	SUS. SOLIDS	mg/L	mg/L	TEMP C	TR mg/L	TR ug/L	TR ug/L	TR
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16	1,236	7.20			212		831				1914			<u> </u>	
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28	1,241	7.07	202	114	18.8	9,00	773	9	6,050		165				
29	1,280	7,26	<i>あ</i> じ ~	1,1,1	17.8		847		O.0.10		16.5				
30	1,266	7.28			17.9		8,24				120				
31	1,436	699			18.8		763				17.0				
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DATE	UNITS	ALK. mi/i	<u>-</u>	. RAW ml/l	LIQUOR mg/I	. Nm	TEMP F-C	WEATHER	Imouthly for each treatment facility.  fice as noted in your permit and keep one-copy in your files.  y an appropriate official.  S-snow, C-clear, P.Cpartly cloudy and O-overcast.  S-snow, C-clear, P.Cpartly cloudy and O-overcast.  and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods" or an approved and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods" or an approved and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods" or an approved and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods" or an approved such such in the sampling of the ES Permit Conditions and Operational Control Regulation 10 CSR 20-9.010. Review your permit for specific is must be reported immediately to the Department of Natural Resources.  r before entering digesters and/or holding tanks or after removal from digesters or holding tanks.
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Attrocks of Programme 1

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### MISSOURI DEPARTMENT OF NATURAL RESOURCES NPDES MONITORING REPORT FOR STORMWATER AND WASTEWATER DISCHARGES Quarterly Sampling - Quarterly Reporting

CHARLESTON WW MO-0120081 MISSISSIPPI COUN		ON .	Owner Addr	ess:	harleston	Address Change f	or Owner:   Billing	Facility Address:  Ay HAII  204 N MAIN ST  Charleston MO: 63834			
THIS REPORT COVE	RS THE I	PERIOD: PI	ease place an "X	" in the box bei	neath the appropriate	quarter.					
1 <sup>st</sup> Quarter = Januar	y through M		2 <sup>nd</sup> Qua	arter = April thro	ugh June	3 <sup>rd</sup> Quarter = .	July through September	4 <sup>th</sup> Quarter = October through December			
Due by April	28 <sup>th</sup> ,20		Due	by July 28 <sup>th</sup>	,20	Due by October	r 28 <sup>th</sup> ,20	Due by January 28 <sup>th</sup> ,20 <u>13</u>			
			•								
NO DISCHARGE FO	R QUART	er 🗆	NO DISC	HARGE FOR	QUARTER 🗆	NO DISCHAR	GE FOR QUARTER 🗆	NO DISCHARGE FOR QUARTER $\Box$			
Samples Collected By:	10				Phone:	Analyses Performed b	y (LAB):	Phone:			
Allen	Kod	iene			573-6833325	ENVIronma	Hal Analysis	50 Uth 523-204-8817			
	V	·			OUTFA	LL 001		·			
			PERMITTED		DATE		SAMPLE	ANALYTICAL			
			FINAL LIMITS	8	-	ANALYSIS	TYPE	METHOD			
PARAMETER	MAX AVG AVG					DATE					
Cyanide, Amenable to Chlorination	ug/L	*		*	5	11-01-13	Grab	LACKet-CN2/Sm 4.SONGUA			
Arsenic, TR	c, TR ug/L *					10-15-13	RIALD	EPA 200.7 Rev. 4.4.			
Beryllium, TR	ug/L	*		*	1	10-15-13	CVALD	EPA 200.7 Rev. 4.4			
Cadmium, TR	ug/L	*		*	(3	10-17-13	GCALO.	Sm-3111 B79			
Chromium (III), TR	ug/L	*		*	25	10-18-13	Grab	511 -3111 B/3500-Cr BOI			
Chromium (VI), TR	ug/L	*		*	<b>E</b>	18-07-13	GIOD	5m 3500 Cr B-01			
Iron, TR	ug/L	*		*	185	10-24-13	Grab	5m-3111.B99			
Mercury, TR	ug/L	*		*	(0,2_	10:30:13	Grab	Sm-3112 3-59			
Nickel, TR	ug/L	*		*	215	10-17-13	GIAb	5m.3111 B-99			
Selenium, TR						10-15-13	Grab	EPA-200,7 Rev. 4.4			
Silver, TR					25	10-15-13	Grah	5m-3/1/B-58			
Thallium, TR	ug/L	*		*	23	10-15-13	Grab	EPA 200,7 Rev 4,4.			
SIGNATURE AND TITLE OF INI	DIVIDUAL-RR	EPARING REPO	ORT		DATE	PHONE NUMBER	EMAIL ADDRESS:				
() 22m	Roll				11-18-13	573623-3329	329				
SIGNATURE OF OWNER OR D	ESIGNERAF	PROVING REP	OR		DATE	PHONE NUMBER	EMAIL ADDRESS:				
1 Q Wen 1	Sorl	eu_			11-18-13	573 (3:333325	<u>: [3</u> : 3.3.325]				

(IF VIOLATION OCCURRED, PLEASE ATTACH EXPLAINATION OF POSSIBLE CAUSE)

Return form to: Missouri Department of Natural Resources

Southeast Regional Office
2155 North Westwood Blvd. Poplar Bluff MO 63901

\* - Monitor and Report



## MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER POLLUTION CONTROL PROGRAM

### MONTHLY MONITORING RECORD FOR WASTEWATER TREATMENT FACILITIES

CHAF	FACILITY RLESTO	N W	WTI					STON,	MO .	MI		IPPI/S			<del></del>
	MONTH OF EMBEL.	201	3	OUTFALL N			1T NUM -012					MENT FACI ERATE		OON	
	· · · · · · · · · · · · · · · · · · ·	INFLU	ENT							EFI	FLUENT				
DAY	FLOW: MGD GPD  INF.OR EFF.	PH UNITS	BOD mg/ L		TEMP ° F °C	BOD5 mg/L	PH SU	TOTAL SUS. SOLIDS mg/L	NH3 mg/L	O&G mg/L	SAMPLE TEMP C	Antimony TR mg/L	Copper TR ug/L	Lead TR ug/L	Zînd TR ug/I
1	1,275	7.03			17.9		8.11				17.3		·		
2									1						
3		No. of									ľ				
4	1.093	1691	161	84	19.0	9	834	11,4	KO.050	<b>Z</b> 5	15,0	(D100200	3	(DDOZOC	123
5	1,093	705			19,5		8,21				15.3				
6	1,353	6.98			18.4		8.51				13,2			·	
7	1.190	7,12			J88		831				13.0				
8	6113	7.03	<u> </u>		1711		825	<u> </u>			13,4				
9					·						<u> </u>				<u> </u>
10											:				
11 .	14						2/ -		<u> </u>					<u> </u>	
12 .	1.087	734	241	203	18,1	10		6.15	(0.050		139	ļ		<u> </u>	<u> </u>
13	1.118	709			183		830				139	ļ			<u> </u>
14	1.219	7,21			18.6		869		<u> </u>		10,2	<u> </u>			
15	1:186	7,24			17.0		8.26				10.0	ļ			
16														<u> </u>	
17			2 0 /					70-	1 11					<u> </u>	<b> </b>
18	1,213	7.29	136	70	124	16	8:10	7.82	(6.050		11.2	<u> </u>			<b> </b>
19 20	1.158	7.24		_	17.8		8.39	ļ	<b> </b>		11.5				
20	1,250	7,41			17,3		8.22		-		11.5		<del></del>		<b></b>
22	11131	7.25			17:1	<u> </u>	8.06		<del> </del>		12.3		·		
23 ·	1,234	7,31	***************************************		175		8,22	ļ.———	<b>}</b>		13,4				<del>-</del>
24								<del>}</del>	}		<u></u>			-	<u> </u>
25	1262	201	139	82	15.4	17	921	9.06	(0.050		9,7		· ·		_
26 .	1202	7,04 7,36	131	DZ	135	16	8.11	1106	01030		10,5				<b>-</b>
27	1,200	695			16.4		797	<del> </del>			TT	<b></b>			<b>—</b>
28		10112		-	1617		611				611				_
29									<del> </del>		<del> </del>	<b></b>	·		
30								<b></b> -	<del> </del>				<del></del>		
31											<del></del>				
No.of Samp.	18	18	4	14	18	4	18	4	4		18				
Tot of Samp.	26.0	129	1,17	439	337	91	148	34.4	0.2		223				
ALMST HIVE	1,167		169		18.7	1275	Compared to	8,60	105		11,8		· · · · · · · · · · · · · · · · · · ·		
Daily Max.	1,353	7:41	241	203	19.5	16	851	11.4	K0.050		173	·	<del></del>		
Daily Min.		6.91					791								
Weekly Avg.							r i								
Percent Removal			920	09290											

ADDRESS OF PERSON APPROVING REPORT (OPTIONAL)



### MISSOURI DEPARTMENT OF NATURAL RESOURCES MONTHLY MONITORING RECORD FOR WASTEWATER TREATMENT FACILITIES



FOR THE MONTH OF	CHAI	FACILITY RLESTO	NW				J		STON,	мо	МІ		IPPI/S			******
DAY   MOOPH   PH   BOD   TOTAL   TEAP   ROLL   PH   SU   RULL   SU   RULL   R	DEC DEC	EMBER	201												OON	Ī
DAY   MCD GPD   PFE   WITS   POD   PFE   WITS   PAGE   PFE   WITS   PFE   WITS   PFE   WITS   PFE   WITS   PFE   WITS			INFLU	ENT							. EFI	FLUENT				
2	DAY	MGD GPD			SUS. SOLIDS	TEMP °F °C			SUS. SOLIDS			TEMP	TR	TR	TR	
3	1 .															T
3	2	1,228	6.77	249	198	15.1	9,9	827	21	K0.050	(5	6.9	(0,00200	ವ	<b>(2</b>	K
5	3	11,216										6.9				广
6	4	1151				16.3						8.7				T
7 8 9 1,282,7D, 143 /07 /4,4 22,5 537 20 6050 5,4 10 1,0 2,5 7,24	5	1250	668			164		836				10,0				Γ
8 9 1,282 7,D) 143 107 144 225 839 20 6050 5,4 10 10 1,025 7,24 14,5 8,02 28 11 1 1,036 6,98 14,5 821 3,5 12 10 0 7,07 14,6 8,13 3,1 3,1 13 1,265 7,11 139 76 13,7 232 8,41 22 6050 5,9 17 1,075 6,98 13,8 8,56 7,0 18 10,051 7,21 14,0 8,30 9,3 19 1,63 7,31 14,1 8,24 11,5 20 1961 7,01 14,0 8,30 9,3 19 1,63 7,31 14,1 8,24 11,5 21 22 23 2,061 7,16 14,0 8,20 17,08 24 1,985 7,16 13,7 8,25 20 10,55 25 1,074 7,16 13,7 8,25 20 10,55 26 2,074 7,16 13,7 8,25 20 10,55 27 7,073 7,19 13,4 8,37 8,16 8,37 8,11 8,37 8,25 20 10,55 28 29 30 2,268 7,21 54,5 57 16,5 7,25 20 10,5 31 11,5 11,5 11,5 11,5 11,5 11,5 11,5	6	1250	693			160		831				8.7				
9	7															
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11		1	7.0)	143	107	,	225		20	10.050						
12		<del></del>								<u> </u>						
13		1036											: •			
14 15 16 1,294 7,04 119 76 13.7 23.2 8,41 2.2 6,656 7,0 17 18 18 10.51 7,11 19 11 14.0 8,30 9,3 11 19 11 14.0 8,30 19,4 11,5 11 20 19,61 7,01 14.0 8,20 16,8 18 21 22 23 2,061 7,16 13,7 8,20 24 1,985 7,16 13,7 8,25 26 26 2,014 7,16 13,7 8,25 27 26 7,2 7,3 13 7,141 7,18 7,2 13 11 7,141 7,18 7,2 13 11 7,141 7,18 7,2 142 15,13 16,5 16,6 17 16,5 18 18 18 18 18 18 18 18 18 18 18 18 18					ļ											L
15 16 1,294 7,04 119 76 13.7 23.2 8,41 22 6,056 7,0 18 18 10,51 7,21 19 11 6.3 7,31 19 11 6.3 7,31 19 11 6.3 7,31 19 11 6.3 7,31 19 11 6.3 7,31 19 11 6.3 7,31 19 11 6.3 7,31 19 11 6.3 7,31 19 11 8,24 11,5 12 20 19 61 7,01 11,6 12,7 12 21 22 23 2,061 7,16 12,7 13,7 13,7 13,7 13,7 13,7 13,7 13,7 13		1265	7.11			13.9		830		ļ	·	3,5				L
16						· ·				<u> </u>	·					_
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19						بسيد المستحدث										<u>_</u>
20		105								ļ						L
21 22 23 2,061 7,16 7,45 7,10 24 1,985 7,10 25 26 2,074 7,10 1,3,7 8,25 26 27 2,078 7,19 1,3,4 8,37 8,11 28 29 30 2,2-68 7,2-1 31 2,141 7,18 1,4-2 8,14 1,7,18 1,4-2 8,14 1,10 8,29 1,10 1,3,4 1,4-2 8,14 1,4-1 1,10 1,10 1,10 1,10 1,10 1,10 1,10 1,		112				7			<del></del>			1115/			· .	L
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29				<u> </u>	<u> </u>					<del>  </del>						_
29 30		4018	116 1			13:4		DU				7,1				<b> </b>
30				-	<del> </del>								<del></del>			_
31		12/8	711	543	57	16 5	280	706	75	217		62				-
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1469		<u> </u>	111	711	-	بحب				1						•
Daily Max. 2, 248 7, 21, 249 134 16, 3 28, 8, 8, 6 25 2, 17 11, 5	Monthlyne	1 (10		1421												_
Daily Min.  Weekly Avg.  Daily Min.  No.D3			7,71			سان ساس		8.56	25							
Weekly Avg.	Daily Min.	2,-:0			137	70,7										
Percent 14 14 14 14 14 14 14 14 14 14 14 14 14	Weekly Avg.											1.0				<del>-</del>
Percent Removal 95007.7%	Percent Removal			150/	77%											

OPER	<u>ATIO</u>	NAL C	CONT	ROL PA	RAMETE	RS	<u> </u>		<u> </u>
	PH		EFF	SET SOLIDS	SUSP. SOLIDS MIXED	SETTLEABILITY MIXED LIQUOR		RAIN AND	Methods" or an approved composite sampling of the your permit for specific rrs or holding tanks.
DATE	UNITS	YFK ⊞Ņ	DO mg/l	. RAW mI/I	LIQUOR mg/I	:. · ml/l ·	· TEMP F-C	WEATHER	ppro ppro
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8	<u> </u>	<del></del>					<del>                                     </del>	<del>                                     </del>	Ise "Standard Ise "Standard Ise "Standard Ise in the time of 1,010. Review isources, sources,
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11	<u> </u>	<u>.</u>	<u> </u>					I.P.C.	rred tree
· 12			•	<u> </u>	<u>.</u> -		: <u>.</u>	PC	les. s ne n 1(
13.			1469	· ·			F	PC	ir ff.
14 :		:	• 100		<del>- :</del>		1.7		you you indi indi indi indi it
15,	: -		:	· <del>-</del>	<del> </del>			<del> </del>	in 'in 'in nit nit Re l'Re l'Re l'an tan
			(1) 71	<del></del> -	<del> </del>	<del></del>		Dr.	nal monthly for each treatment facility.  office as noted in your permit and keep one copy in your files.  1 by an appropriate official,  in, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  in, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  5, and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods"  5, and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods"  5, and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods"  6, and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods"  7, and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods"  6, and Suspended Solids test unless NPDES permit indicates of composite testing one influent or effluent. Lagoon influent flow measurements need be only at the time of composite on such that the time of composite the influent or effluent. Lagoon influent flow measurements need be only at the time of composite the influent or effluent. Lagoon influent flow measurements need be only at the time of composite the influent or effluent. Lagoon influent flow measurements need be only at the time of composite the influent or effluent. Lagoon influent flow measurements need be only at the time of composite the influent or effluent. Lagoon influent flow measurements need be only at the time of composite the influent or effluent. Lagoon influent flow measurements need be only at the time of composite the influent of the influent or effluent. Lagoon influent flow measurements need be only at the time of composite the influent of the influent of the influent or effluent flow measurements need be only at the time of composite the influent flow measurements need be only at the influent flow measurements need be only at the influent flow measurements need be only at the influent flow measurement flow measurements need be only at the influent flow measurement flow measurements need be only at the influent flow measureme
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18	<u>  :                                   </u>	:	<u></u>	<u>.                                    </u>	::	<u> </u>		170	nal monthly for each treatment facility office as noted in your permit and keep by an appropriate official.  In, S-snow, C-clear, P.Cpartly cloud les for all operational control test.  5, and Suspended Solids test unless Nor influent or effluent. Lagoon influence influent or effluent. Lagoon influence influent before entering digesters and/oner before entering digesters and/oner before entering digesters and/oner before entering digesters and/oner before entering digesters and/oner before entering digesters and/oner before entering digesters and/oner before entering digesters and/oner before entering digesters and/oner before entering digesters and/oner before entering digesters and/oner digesters and/oner digesters and/oner digesters and/oner digesters and/oner digesters and/oner digesters and/oner digesters and/oner digesters and/oner digesters and/oner digesters and/oner digesters and/oner digesters and/oner digesters and/oner digesters and/oner digesters and/oner digesters and/oner digesters and/oner digesters and/oner digesters digesters and/oner digesters digesters and/oner digesters digesters digesters digesters digesters digesters digesters digesters digesters digesters digesters digester digesters digester
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COMIN	ŒNT	S 677	انند. دمید ۱	,		· ~ ~	<u> </u>	ITU	1. Fill out one copy of report, each month and mail in original monthly for each treatment facility.  2. Mail original of report cach month and mail in original monthly for each treatment facility.  3. Reports must be signed by whoever performed tests and by an appropriate official.  4. In the weather column, use the following symbols: R-rain, S-snow, C-clear, P.Cpartiy cloudy and O-overcast.  5. Use grab sample for pH, Temp, and D.O. Use grab samples for all operational control test.  6. Use 24 hr. composite (proportional) samples for B.O.D. 5, and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods" or an approve equal for all parameters.  7. Treatment plant flow measurements may be made on either influent or effluent. Lagoon influent flow measurements are performed in accordance with NPDES Permit Conditions and Operational Control Regulation 10 CSR 20-9.010. Review your permit for specific requirements.  8. Unusual conditions, significantly affecting operations must be reported immediately to the Department of Natural Resources.  9. Representative sludge samples should be taken either before entering digesters and/or holding tanks or after removal from digesters or holding tanks.
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	• • •		٠.						1. Fill out one copy of regols. 2. Mail original of repols. 3. Reports must be sign. 4. In the weather colum. 5. Use grab sample for p. 6. Use 24 hr. composite equal for all parameters. 7. Treatment plant flow influent. All test must brequirements. 8. Unusual conditions 9. Representative shu
TESTS PER	FORMED	BY: PLEA	SE PRIN	^	·· ·	<del>``</del>	TITLS	·	] HONE # 2
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NUTANOIL	DOLL.	WEKLOS DI	I)~/~	APPROVING I	Ceport 	: : :	TITLE STORY		1573-683-3325 DATE-16-14
EMAIL ADI	ORESS OF	PERSON	APPROV	NG REPORT (	OPTIONAL):		· yree	<del></del>	
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### MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER POLLUTION CONTROL PROGRAM

### MONTHLY MONITORING RECORD FOR WASTEWATER TREATMENT FACILITIES

Comparison   Com	TAME OF	FACILITY			<del> </del>		CITY				COTT	יייעיייייייייייייייייייייייייייייייייי	ON			
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DAY   DEC   CRITE   DEC   DE			INFLU	ENT							EFF	LUENT			-	
2   .78   743   778   7790   4.4   4.4   4.5   4	DAY	MAIGD GPD			SUS. SOLIDS				SUS. SOLIDS			TEMP	TR	TŘ	TR	TR
3 1,880 7,30 7,9 8,10 4,2    6 1,915 7,12 2.74 3.2 12.5 21,5 8,21 2.6 3,73 <5 1,5 4,002 7 3,30 79 79    7 1,923 7,26 12.1 8,05 0.2    8 1,863 7,25 12.5 12.5 8,19 0.2    9 1,869 7,10 12.7 8,34 0.5    10 1,738 7,20 11/8 8,14    11	1 ·							<u> </u>		1						· · ·
3 1,880 7.30 7.9 8.10 4.2 4.2 4.2 5.1 5.1 7.12 1.7 1.8 1.2 1.2 1.8 8.10 4.2 4.2 4.2 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3	2	1.781	7.43			78		790				4.4				
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8. Unusual conditions, requirements.

STS PERFORMED BY: PLEASE PRINT

CONTINUED APPROVING REPORT

CONTINUED OWNER ON DESIGNEE APPROVING REPORT EMAIL ADDRESS OF PERSON APPROVING REPORT (OPTIONAL):

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## MISSOURI DEPARTMENT OF NATURAL RESOURCES NPDES MONITORING REPORT FOR STORMWATER AND WASTEWATER DISCHARGES Quarterly Sampling – Quarterly Reporting

CHARLESTON WW MO-0120081 MISSISSIPPI COUN		ON		11/	harlesten	Address Change f	or Owner:  Billing	Facility Address:  (natested mo 204 Nimain 54.63834
THIS REPORT COVE  1st Quarter = Januar  Due by April	through M 28 <sup>th</sup> ,20 <u>1</u>	arch	2 <sup>nd</sup> Qu	in the box ber arter = April thro by July 28 <sup>th</sup>	ough June		July through September r 28 <sup>th</sup> ,20	4 <sup>th</sup> Quarter = October through December  Due by January 28 <sup>th</sup> ,20
NO DISCHARGE FO	OR QUART	ER	NO DISC	HARGE FOR	QUARTER 🗆		GE FOR QUARTER 🗌	NO DISCHARGE FOR QUARTER ☐
Samples Collected By:					Phone:	Analyses Performed b	y (LAB):	Phone:
		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·					
	-					ALL 001	<b>*</b> ,	
			PERMITTED FINAL LIMIT		1/6/14	ANALYSIS	SAMPLE TYPE	ANALYTICAL METHOD
PARAMETER	UŅITS	DAILY MAX	WEEKLY AVG	MONTHLY AVG	Time	DATE		
Cyanide, Amenable to Chlorination	ug/L	*	15	*		1-28-14	Gray	LACKAY-CN2/5m-4500 CNG
Arsenic, TR	ug/L	*	126	*		1-1344	Grab	EPA-200.7 Rev. 4.4
Beryllium, TR	ug/L	*	(10	*		1-13.14	Grall	EPA-200,7 Rev. 4,4
Cadmium, TR	ug/L	*	<b>  &lt;3</b>	*		1-16-14	Grah	5m-3/11 B79
Chromium (III), TR	ug/L	*	( \( \( \( \) \)	*		1-17-14	Grab	5M-3111 B.99
Chromium (VI), TR	ug/L	*	<u>                                   </u>	*		1-17-14	Grad	5m-3111B/3500 Cr A-01
Iron, TR	ug/L	*	384	*		1-16-14	Grad	5m311 B-99
Mercury, TR	ug/L	*	<12	*		1-24-14	GA1D	5m=31/2-B99
Nickel, TR	ug/L	*	<15	*		1-16-14	Grab	5m3/11 B99
Selenium, TR	ug/L	*	<5	*		1-13-14	Grab.	EPA-200,7 Rev. 4.4
Silver, TR	ug/L	*	(5	*		1-16-14	EMB	5M3111 B-89
Thallium, TR	ug/L	*	< 050	*		1-13-14	ELAD.	EPA-200.7 Rev 4.4
SIGNATURE AND TITLE OF IN	IDIYIDUAL PR	EPARING REP	ORT		DATE	PHONE NUMBÈR	EMAIL ADDRESS:	
( Wen 12	Des	/			2-10-14	57.368333325		
SIGNATURE OF OWNER OR I	DESGNEE AF	PROVING REF	POR	<del></del>	DATE	PHONE NUMBER	EMAIL ADDRESS:	
Il Wen R	me.				2-10-14	573-683332	· · · · · · · · · · · · · · · · · · ·	

(IF VIOLATION OCCURRED, PLEASE ATTACH EXPLAINATION OF POSSIBLE CAUSE)

Return form to: Missouri Department of Natural Resources

Southeast Regional Office 2155 North Westwood Blvd. Poplar Bluff MO 63901

\* - Moritor and Report





CHARLESTON WWT LAGOON					• •				·		<del></del>	V2 1 CVT Y22			
FOR THE MONTH OF   FE   CONTENT   OUTFALL NUMBER   MO-0120081   SCELL AERATED L	~· ·	מחה				VΩ	SULUM:	DIE	CITY	n.T	1 COO	( <b>3</b> .77mm ) ar	AT WXZ		
REBRUARY 2014   001   MO-0120081   3 CELL AERATED L	<i></i>					VIO .	· · · · · ·		<u> </u>				TA AA		
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لمنم	· · · · · · · · · · · · · · · · · · ·	8.70	٠ ر	NEXA	c:res	seed -	the NHI	illing	<ol> <li>Fill out one copy of rebort each month and mail in original monthly for each treatment facility.</li> <li>Mail original of report to the appropriate DNR regional office as noted in your permit and keep one copy in your files.</li> <li>Reports must be signed by whoever performed tests and by an appropriate official.</li> </ol>	In the weather column, use the following symbols: R-rain,	5. Use grab sample for pH, Temp, and D.O. Use grab samples for all operational control test. 6. Use 24 hr. composite (proportional) samples for B.O.D. 5, and Suspended Solids test unler equal for all parameters.	7. Treatment plant flow measurements may be made on either influent. All test must be nerformed in accordance with NPDF	<u> </u>	8. Unusual conditions, significantly affecting operations must be reported immediately to the Department of Natural Resources.
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	FLOW: MGD GPD	· PH	BOD	TOTAL	TEMP °F ©	B <sub>Q</sub> D <sub>5</sub>	РН	TOTAL	NH3	O&G	SAMPLE	Antimony	Copper	Lead	Zine
DAY	INF.OR EFF.	UNITS	mg/L	SUS. SOLIDS mg/L	°F C	mg/L	SU	SUS. SOLIDS mg/L	mg/Ļ	mg/L	TEMP C	TR mg/L	TR ug/L	TR ug/L	TR ug/I
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3	1.567	7.19		49	11.9	29,4	4.31	32	7.85	<b>K</b> 5	2,1	0.00200	<b>Z</b> 3	60026	Z 2
4	1.672	7.29			11,6		8.27				1.7				
5	1.403	736	<u>                                      </u>		<u> </u>		8.41		<u> </u>	<u> </u>	2.8			<u> </u>	
6	1.398	17.01			12.1		806				3.0	ļ		<u> </u>	<u> </u>
7 8	1,401	7.09	<del>                                     </del>	<del> </del>	11.5	ļ	8.32		<del> </del>	<del> </del>	4,4			<u> </u>	
9			<del> </del>	<del> </del>		<b>!</b>	<del> </del>	· ·	<del>                                     </del>	<u> </u>		<u> </u>			
10	1.468	7,28	63,2	26	13.3.	2/1	8.22	26	6,43	<del></del>	6,9			-	<del></del>
11	1,663	7.10	16.Ji ~	26	13.0	1611	8.19		6,06		7.1	: •			
12	1.776	7,21			12.4		800		5:32		9,6			<u> </u>	
13	1.6.39	7.03			13.0		789		4,96	•	9,5				
14	1.686	6.98			13.1		8,21		412		10,4				
15															
16															
17	1998	7.22	62.0	39		2414	-	24	202		9,1				
18	1.713	6,94		<u> </u>	13.2		2.97		1.76		98				
19	1.734	698	<u> </u>	<u> </u>	13.0		7681		ļ		10.3				
20 21	1.603	6.99		ļ	12.6		7,51			-	10.7				
22	7.713	7,08			13.1	<u> </u>	7:81		0.025		10.9		***************************************	ļ	
23 ·			<u> </u>	<del>}</del>	<b></b>						·		·*·		
24	1.4.85	7.05	40,5	27	124	19,4	7.85	24	0.025		90		****		
25	1,614	7,22	70,2	120	14.6	17(5)	7.81	2-9	0.025		10.4		<del></del>		
26	1.485	7.11	<u> </u>	1	13.7		2:67		رعبن		9,4				
27	1.442	7.34	<del></del>	1 .	12.8		7,54				10.0		· · · · · · · · · · · · · · · · · · ·		
28	1.669	707		<del> </del>	12.8		7.79		0.025		11,0				
29						-			,						
30						·			·						
31	1.686	691	28.8	32	13.4	20.3	785		0,025		146				
No. of Samp.	21	<u> </u>	5	5	21	5		_\$	13		2]				
Tot of Samp.	34,2		3045	1.73	225.1	127公		136	38.72		1697				·
Midminives Daily Max.	<u>C6,1</u>		60,9	346	121	364		21.2	297		8.0				
Daily Min.	1.998	7.36	63.2	1 <i>49</i>	14,6	19,4	<del>9.3</del> 2	32	17.85		Ilid				
Weekly Avg.		6974					751								
Percent			1219	21%											
Removal			71/6	100/16											

#### OPERATIONAL CONTROL PARAMETERS SUSP. SOLIDS SETTLEABILITY at the time of composite sampling of the MIXED LIQUOR an approved PH SET SOLIDS MIXED RAIN AND influent. All test must be performed in accordance with NPDES Permit Conditions and Operational Control Regulation 10 CSR 20-9.010. Review your permit for specific UNITS RAW mi/l LIQUOR mg/l TEMP F-C WEATHER ALK. mi/ - Nα DATE DO mg/l Representative sludge samples should be taken either before entering digesters and/or holding tanks or after removal from digesters or holding tanks. 2 1530 3 6. Use 24 hr. composite (proportional) samples for B.O.D. 5, and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods" 4 5 6. 13,29 8. Unusual conditions, significantly affecting operations must be reported immediately to the Department of Natural Resources. 7 8 <u>.</u> و be made on either influent or effluent. Lagoon influent flow measurements need be only 10 11 12 2. Mail original of report to the appropriate DNR regional office as noted in your permit and keep one copy in your files. 13 4. In the weather column, use the following symbols: R-rain, S-snow, C-clear, P.C.-partly.cloudy and O-overcast. 1.31 14 : 15. 16 013 17 : ; ٠., 1. Fill out one copy of report each month and mail in original monthly for each treatment facility. 18 19 5. Use grab sample for pH, Temp, and D.O. Use grab samples for all operational control test. 20 3. Reports must be signed by whoever performed tests and by an appropriate official, 12.01 21. 22 23 1113 24 25. 26 27 28 29 30 31 Treatment plant flow measurements may : COMMENTS equal fòr all parameters. ġ, TESTS PERFORMED BY: PLEASE PRINT LONG ON AS LONG SIGNATURE OF OWNER OR DESIGNEE APPROVING REPORT EMAIL ADDRESS OF PERSON APPROVING REPORT (OPTIONAL):



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API	<u> </u>	201	4	001	1		-012			3 CJ	ELL A	ERATE	D LAG	OON	
		INFLU	ENT				· .			EFF	LUENT				·
DAY	FLOW: MGD GPD  INF.OR EFF.	PH UNITS	BOD mg/L	TOTAL SUS. SOLIDS mg/L	TEMP °F (C)	B.QD5 mg/L	PH SU	TOTAL SUS. SOLIDS mg/L	NH3 mg/L	O&G mg/L	SAMPLE TEMP C	Antimony TR mg/L	Copper TR ug/L	Lead TR ug/L	Zinc TR ug/L
1	1.420	7.29	<b></b>		15.4		7.75			Z5	13.9	1,002	5.	K,200	く3
2	1,473	7,05		<u> </u>	155		7.68				lle13				~~
3	1.680	7.13			16,8		7.78				17.1				
4	1.660	7,06			15.7		7.67				16.8.				
5															
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7	1.891	7,21	41.8	23	15.4	137		20	K0.050		15:3				
8	1:7.62	7,04			15,0	<u> </u>	7,63	<u> </u>			15.7				
9	1.616	7.11			15.3		7.70				158				
10	1.693	7.05	<u> </u>		15.5		7.65				15,7	. : .			
. 11	1.591	7.20			160		781	,			16.7	• • • •			
12			<b></b>											<u>.                                    </u>	
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14	1.716		30.7	42	16,1	911	7.73	16	K0.050		161				
15		7,21			15,4		785	· ·			170				
16	1938	7.10			17.0		7,69				18.4			· ·	
17	1.868	7.05	<del>,</del>		17.3		7.81				18.6				
18	Н													ļ	
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20	1021	704	7.	n,	1-0	10.0	71.7	20	/		166			<b></b>	
21	1.836	7.05	100 .	31	17.3			30	(0.050		18.8		·		
22	1.9.38	698			175		7.87				180				
24	1703	7.20			17.6		784				18.3				
25	1.714	7.24			17.0		781				191				
26	1.613	7.02			17.3		7,83				18,5				
27	•							<del></del>						· ·	
28	1947	2,24	309	63	17,0	8.90	783	25	0.050		19,6				
29	1.844	7,09	7881	10.5	18.6	0,10	76l	7-0-2	VALLE		20.2				
30	1755	705			20.1	<u> </u>	7:63				20.1				
31	1-11-1-1	12.1			2011		1187								
No.of Samp.	7	71	4	4	7.	14	21	4	4		21				
Tot of Samp.	36.0	15024	253.4	159	348.9		16248		0.2		3/06.5				
AMOSHIW S	1,737		3085	3925	16.6	70.4		22.75	المستحدث المستحدث		17,4				
Daily Max.	1,947	729			201	13.7	7.87		KODSD		20.2				
Daily Min.		698					7,61								
Weekly Avg.															
Percent Removal			799	74%											
		WET-WES STORY		<del></del>		The state of the s		The second secon						- Control of the Cont	

OPER	ATIO	NAL (	CONT	ROL PA	RAMETE	RS	<u> </u>		
	PH		EFF	SET SOLIDS	SUSP. SOLIDS MIXED	SETTLEABILITY MIXED LIQUOR		RAIN AND	or an approved sampling of the it for specific in for shecific ing tanks.
DATE	UNITS	ALK. mi/i	·	. RAWml/I	LIQUOR mg/I	ml/l · .	· TEMP F-C	WEATHER	or an approved sampling of the nit for specific ding tanks.
<u> </u>	<del> </del>	;	16.83		<b> </b>	· · · · · · · · · · · · · · · · · · ·		120	n apli or sg tau
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3		<u>.</u>	<del></del>	· · · · · · · · · · · · · · · · · · ·	<del> </del>	<u> </u>	-	PCK	osity perm
4			9.96	<del> </del>	·	· 		PC	our s or
5	<b> </b> -	<del></del>	<del>                                     </del>	:		:	· · ·	<del> </del>	d M d M d M sw y sw y
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7		<del>- ÷</del> .	UNIV	<del>                                     </del>	<del>- :</del>	·		DC.	Ise "Standard Methods" of the time of composite 0.010. Review your perm isources.
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25.		<u>-r</u>		<del>. :</del>	<u></u>			<u> </u>	monthly for each treatment facility. Ice as noted in your permit and keep of an appropriate official.  S. Show, C-clear, P. Cpartly cloudy as for all operational control test.  and Suspended Solids test unless NPD rinfluent or effluent. Lagoon influent is ES Permit Conditions and Operational is must be reported immediately to refore entering digesters and/or hand the content of the condition in the condition
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COMM	TENT	 S	<u> </u>	•	<del>ا ا</del>			ـــنــنــــ	riate DNR regional off performed tests and by the formed tests and by the performed tests and by the book of the samples for B.O.D. 5, amples for B.O.D. 5, amples for B.O.D. 5, accordance with NPD accordance with NPD hould be taken either thould be tak
العبريد -		- : <u>i</u> .			•		:-		1. Fill out one copy of report each month and mail in original monthly for each treatment facility.  2. Mail original of report to the appropriate DNR regional office as noted in your permit and keep one copy in your files.  3. Reports must be signed by whoever performed tests and by an appropriate official.  4. In the weather column, use the following symbols: R-rain, S-snow, C-clear, P.Cpartly.cloudy and O-overcast.  5. Use 24 hr. composite (proportional) samples for B.O.D. 5, and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods" or an approaqual for all parameters.  7. Treatment plant flow measurements may be made on either influent or effluent. Lagoon influent flow measurements need be only at the time of composite sampling influent. All test must be performed in accordance with NPDES Permit Conditions and Operational Control Regulation 10 CSR 20-9.010. Review your permit for specifications, significantly affecting operations must be reported immediately to the Department of Natural Resources.  8. Unusual conditions, significantly affecting operations must be reported immediately to the Department of Natural Resources.  9. Representative sludge samples should be taken either before entering digesters and/or holding tanks or after removal from digesters or holding tanks.
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TESTS PER	FORMED	DN N	SE PRIN	121	Hnalk	515	TAb.		PHONE# 523-204-8817: DATE-19-14
SICHATURI	E OF OW	NER OR D	PEIGNEE	APPROVING I	REPORT Y		DOOM	·	PHONE# 572-683 232 S DATE 19-14
EMAIL ALL	PESS OF	PERSON	APPROV	ING REPORT (	OPTIONAL):	<del></del>	CHA.	<del></del>	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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## MISSOURI DEPARTMENT OF NATURAL RESOURCES NPDES MONITORING REPORT FOR STORMWATER AND WASTEWATER DISCHARGES Quarterly Sampling – Quarterly Reporting

204 N. MAINST
4th Quarter = October through December  Due by January 28th,20  NO DISCHARGE FOR QUARTER
Phone:
ANALYTICAL METHOD
Achel CN2/5m-4500 CN 6
EPA-200,7 RCV. 4,4
=PA-200.7 Rev. 4,4
5m-3111 B-98
M-31110/3500-Cr M-DL
m-3500-Cr B-01
m 3111 B.99
m-3/12 B99
m-3111B-99
PA-200.7 Rev. 4.4
m-3111 B-99
PA-200.7 RCV. 4.4

(IF VIOLATION OCCURRED DLEASE ATTACH EXPLAINATION OF POSSIBLE CAUSE)

Return form to: Missouri Department of Natural Resources



	FACILITY LESTO MONTH OF	N W				L	RLE	STON,	МО.	MI		ION IPPI/S MENT FACE		,	
ND.		201		UTFALL N 00		5	-012					ERATE		OON	
		INFLU	ENT							EFF	LUENT				
DAY	FLOW: MGD GPD  INF.OR EFF.	PH UNITS	BOD mg/L	TOTAL SUS. SOLIDS mg/L	TEMP °F °C	BOD5 mg/L	PH SU	TOTAL SUS. SOLIDS mg/L	NH3 mg/L	O&G mg/L,	SAMPLE TEMP C	Antimony TR mg/L	Copper TR ug/L	Lead TR ug/L	Zinc TR ug/L
1 .	1,838	7.13		<u> </u>	17.6		7,77			1	18,8				·
2	15:48	6.93			175		8.01				17.9				
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4										<u> </u>					
5	1985		640	70		24.8		16	(0.050	<u>5</u>	19.7	K1002	<b>K</b> 2	K.200	< 3
6	1.895	698			19.9-		7:70				21.3		<b> </b>	<u> </u>	
7 8	1:870	7.12		ļ	18.5	<u> </u>	789		<b> </b>		206		<b>-</b>	<del>                                     </del>	
9	1.775	732		<del> </del>	17.9		8,22	· .			23.0 22.9		<u> </u>	<del> </del>	<b> </b> -
10	1.877	フィスト			17.8	<b></b>	8.0.3		-		14.7		<del> </del>	<del>                                     </del>	
11 .													<del>                                     </del>		
· 12	1.988	7.04	47.1	38	18.5	9,32	8.22	10	6.050		23,0				<del></del>
13	1-917	695			19.2	112	7.99	10	1		24.2				·
14	2.061	7.07			12.8		8.22				20.6	<u> </u>	·		
15	2,000	7110			18.1		8.15	•			188				
16	1.807	7.18			17.8		805				18.5			·	
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19		7.1.3	116	.20		8.11	8.10	12	(0.050		20.7			<u> </u>	
20	1.719	7.21			18.0		826				20.5				
21 22	1.922	7:00			17.8	<u></u>	8.05				20.9		ļ	<del> </del>	
23 ·	1.160	6.99			18.0		4,24	•			21.9		<b> </b>		
24	1.837	6.77			11/4		8,08			·	242		<del> </del>		
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27	1.890	705	51:5	42	19,7	9.01	8,12	14	0.050		25.0		<del> </del>		
28	1.821	7.0.5			20,2		831	<del></del>	217.17		2:5.7				
29	1.821	703			20,0		8.27				25.0				
30	1.841	7.15			19.8	·	8.35				24.8				
31															
No.of Samp.	21	21	4	4	21	4.	21	4	4		21			<u>                                     </u>	
Tot of Samp.	39.4	150	2.78,6	170	389	2/50	170	52	0.2		458		<u> </u>		
Moanny Daily Mar	1.876		<u>69.55</u>			1281		13	:05		21.8			ļ	
Daily Max. Daily Min.	2061	7.33		70	20.2	248		16	KO:050		25,7			ļ	
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Removal			<u> </u>	169 %											

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F .				<b>'</b>	SUSP.				
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<u>. 1</u>	<del> </del>	<del> </del>	10,04	<del>                                     </del>				120	ods" or an approved osite sampling of the permit for specific holding tanks
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<u>7</u> .		<u> </u>	00. 1 - 2		:	<u>:                                    </u>		170	Use "Standard Methods"  Vat the time of composite -9.010. Review your pern esources.
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12			9.31		<u> </u>	À 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	<u> </u> :	1.12rK	illes in on long of the same o
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			1 N					17.	De De Caracter de la
16			מיחו		7			1: Lr>	1. Fill out one copy of report, each month and mail in original monthly for each treatment facility.  2. Mail original of report each month and mail in original monthly for each treatment facility.  3. Reports must be signed by whoever performed tests and by an appropriate official.  4. In the weather column, use the following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  5. Use grab sample for pH, Temp, and D.O. Use grab samples for all operational control test.  6. Use 24 hr. composite (projoritonial) samples for B.O.D. 5, and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods" or an approved equal for all parameters.  7. Treatment plant flow measurements may be made on either influent or effluent. Lagoon influent flow measurements need be only at the time of composite sampling of the influent. All test must be performed in accordance with NPDES Permit Conditions and Operational Control Regulation 10 CSR 20-9.010. Review your permit for specific requirements.  8. Unusual conditions, significantly affecting operations must be reported immediately to the Department of Natural Resources.  9. Representative sludges samples should be taken either before antering disserter and/or holding stantes or after removal from disserters or holding tanks.
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		INFLU	ENT					··············		EFI	LUENT				
DAY	FLOW: MGD GPD  INF.OR EFF.	PH UNITS	BOD mg/ L	TOTAL SUS. SOLIDS mg/L	TEMP °F C	BOD5 mg/L	PH SU	TOTAL SUS. SOLIDS mg/L	NH3 mg/L	O&G mg/L	SAMPLE TEMP C	Antimony TR mg/L	Copper TR ug/L	Lead TR ug/L	Zin TR ug/l
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2	1.880	6,97	[149]	56	18.4	12.7	8.07	20	(0,0.50	<5	24.8	6,00200	3	(0.0626	7.3
3	1.726	7,23.			26.1		8,02	·			26.3				
4	1.560	7.10	ļ		19,6		8.10				25,9				
5	1.423	6,98		<u> </u>	18.7		8.1.3				25,4			ļ	
6	1.800	7.10			19.3		7.98				26.6				<u> </u>
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9	1,900	700	7 6 1 1	95	20,2	15.1	8,08	19	K0.050		263				
10	1,914	7.05	204	73	21.0	<i>12</i> .1	8.10	1 (	K0050		25,0				
11	1.826	7,04			21,4		8,14				24.6				<del> </del>
12	1,820	1,59			20,4	<del></del>	8,24				25.1				
13	2.114	7,13			21, 2		8,21		1		258				
14					-0.4		Ot~I				2010				
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16	1.816	7.07	646	50	20,1	7.17	8,03	12	6.050		26,2			·	
17	1818	70)			21,5		8.26				26,3				
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19	1.689	7,03			21.4		8:06				28.2				
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24	1.895	7.00	123	68	20.7	7,66	803	. 12	10.050		28.1			<del>                                     </del>	
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26	1,773	7,03			23.5		0.04 8,29				28, Z 28,0			<b>  </b>	
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Daily Max.	2114	7.23	204	95	240	15.1	8.34	20	0.050		28.5			<u> </u>	
Daily Min.		6.60					10.8							ļ <b>.</b>	
Weekly Avg. Percent			75.5	- 787											
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TESTS PER	FORMED	BY: PLEA	SE PRIN		··· \	· · ·	TITLE / n	<del> </del>	<del></del>
EAU	1,00	DAY:	<u>efn:</u>	ADDROVING.	relysi:	5 South	TITLE	) .:	PHONE - 204-8817 PATE -30-14
JUNALUK	: ۲۲ با سند	ariyetik di	بالمالالة	THE PARTY IN	UAL1		ا مناسله،		TRANSPORT - APPLICATION - IDALE / DOS /12



CHAR	FACILITY LESTO MONTH OF	NW	WTI				RLE	STON,	MO :	MI		IPPI/S			
JUL		2010	4	OUTFALL 1		1	012					ERATE		OON	
	•	INFLU						· · · · · · · · · · · · · · · · · · ·	·	EFF	LUENT		<del></del>		
DAY .	FLOW: MGD GPD  INF.OR EFF.	PH UNITS	BOD mg/ L	TOTAL SUS. SOLIDS mg/L	TEMP °F°C	BOD5 mg/L	PH SU	TOTAL SUS. SOLIDS mg/L	NH3 mg/L	O&G mg/L	SAMPLE TEMP C	Antimony TR mg/L	Copper TR ug/L	Lead TR ug/L	Zir TF ug/
1 ·	1.2-33	7:14			22.6		8,43				26.8				
2	1,275	708			23.5		8,30				27,7				
. 3	L094	7.09			23.0		837				21.6				
. 4	H														
5		<u></u>			<u> </u>	<u> </u>	<u> </u>								<u> </u>
6	1						<u> </u>				28.4				<u>L.                                    </u>
7	1:046		43.0	) 49	232	12,45	9.22		KO.030	75		6,00200	5.4	0.0028	7 9
8 9	15076	7.10		<u> </u>	22.3		8,35				28.6			ļ	<b> </b> -
10	1095	6.99			23,0	<del> </del>	8,20		<del>-</del>		28.L				┝
11	1,043	3 7,17			23,6		8.57				28,9 28,5	: •	·		<del> </del>
12	1,031				12:3	<b></b>	8.49				20,2				
13						<b>!</b>	<u> </u>							<u> </u>	
14	1057	7.03	181	1210	22.5	685	911	9	0.050		25.1				<del> </del>
15	1.168	7.12	701	12/0	21.7	1010-2	8.53		10,020		28.3				
16	962	7.19		<del> </del>	22.8		8,10				28,1				
17	965	706			23.3		8.59				27.4				
18	1,000	7.13			73.1		8,61				27,5		<del></del>		
19		7.7.	·												
20															
21	1.311	7.05	43.1	197	24.1	7.46	8.10	8	KO.050		28,				
22	1,025	7.13			23.4		8.18				28,5	7.			
23 ·	1,374	7,03			24,4		8.00				28.5				
24	1,084	7,09			240		8,22				289			<u> </u>	
25	1031	7,68			23.2		8,20		<u> </u>		276				
26									<b>  </b>						
27	1 600	7.6	110	00	226	777	C A O		6250		28 6				
28 29	1039	7.10	119	99	23.0	7,23	8.03	7	6,05D		28,5	-			
30	933	7.05			24		821 849	· · · · · · · · · · · · · · · · · · ·	┼──┤		27,4				
31	100	7.01			24.1 23.1	<u> </u>	04 ( 8,35	· · · · · · · · · · · · · · · · · · ·			27.7				
No.of Samp.	22	22	4	4	22	if:	4	4	4		22				
	23800	1,55,9	388	455	512.4		183,19	3 <i>5</i>	.02		616.4	<b></b>			•
Monthly	1082		97.0		23.3	59	70,70	8.75	0.03		28.0				
Daily Max.	1.374	7,19	181	210	244		8,61	<u> </u>	Ko:050		28.8				
Daily Min.		6.99					8,00								
Weekly Avg.															<u> </u>
Percent Removal			940	49296											

DATE	PH UNITS	EFF ALK DI	DO mg/l	· SET SOLIDS	SUSP. SOLIDS MIXED LIQUOR mg/l	SETT	LEABILITY ED LIQUOR III/I	· TEMP F-C	RAIN AND WEATHER	Ise "Standard Methods" or an approved at the time of composite sampling of the 3,010. Review your permit for specific isources.
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9 .					;				120	Use
10		8:21			• :	:	<del>-:</del>		PC	ronly 3,200
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14 :		8.44	•		:		, ,	. :	PCR	monthly for each treatment facility.  ice as noted in your permit and keep one copy in your files.  y an appropriate official.  S-snow, C-clear, P.Cpartly cloudy and O-overcast.  ifor all operational control test.  and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods" or an approved influent or effluent. Lagoon influent flow measurements need be only at the time of composite sampling of the Sermit Conditions and Operational Control Regulation 10 CSR 20-9.010. Review your permit for specific samust be reported immediately to the Department of Natural Resources.
15,			:-	·	<del></del> ;	1	,		M	monthly for each treatment facility.  ce as noted in your permit and keep one copy in you an appropriate official,  S-snow, C-clear, P.Cpartly.cloudy and O-overcast.  for all operational control test.  and Suspended Solids test unless NPDES permit indinfluent or effluent. Lagoon influent flow measurem influent or effluent. Lagoon influent flow measurem is Permit Conditions and Operational Control Regul in must be reported immediately to the Department.
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•		٠٠				•	. •	•	•	1. Fill out one copy of report each month and mail in original 1. Mail original of report to the appropriate DNR regional office.  3. Reports must be signed by whoever performed tests and by 4. In the weather column, use the following symbols: R-rain, 5. Use grab sample for pH, Temp, and D.O. Use grab samples 6. Use 24 hr. composite (proportional) samples for B.O.D. 5, a equal for all parameters.  7. Treatment plant flow measurements may be made on either influent. All test must be performed in accordance with NPDE requirements.  8. Unusual conditions, significantly affecting operations
	•	•			• •			:	· .	1. Fill out one 2. Mail origin 3. Reports m 4. In the wea 5. Use grab ss 6. Use 24 hr. equal for all p 7. Treatment influent. All trequirements.
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#### MISSOURI DEPARTMENT OF NATURAL RESOURCES NPDES MONITORING REPORT FOR STORMWATER AND WASTEWATER DISCHARGES Quarterly Sampling - Quarterly Reporting

CHARLESTON WW MO-0120081 MISSISSIPPI COUN		ON	Owner Addr	() (	eston	Address Change f	or Owner:   Billing	Facility Address:  CITY HALL  204 N.MAIN 5+.  Chaclesten mp 63854
THIS REPORT COVI  1st Quarter = Janua  Due by April   NO DISCHARGE F	ry through M 28 <sup>th</sup> ,20	arch	2 <sup>nd</sup> Qu <b>D</b> uc	arter = April thro	ough June	3 <sup>rd</sup> Quarter = Due by Octobe	July through September r 28 <sup>th</sup> ,20 <u>i</u> 4  RGE FOR QUARTER	4th Quarter = October through December  Due by January 28th,20  NO DISCHARGE FOR QUARTER
Samples Collected By:					Phone:	Analyses Performed b	y (LAB):	Phone:
			·	T	OTTTE	LL 001		
PARAMETER	UNITS	DAILY	PERMITTED FINAL LIMIT WEEKLY	S MONTHLY	DATE 7:08-14 TIME	ANALYSIS DATE	SAMPLE TYPE	ANALYTICAL METHOD
Cyanide, Amenable to		MAX *	AVG	AVG *		- A co 141	C \	1
Chlorination	ug/L		K0.005		7	7-08-14	GVAD	LAChet-CN2/Sm-4500 CNG
Arsenic, TR	ug/L	. *	8	* *		7-23-14	Grap	EPA-2007 Ped 4.4
Beryllium, TR	ug/L ·	*	51	*	ļ	7-23-14	Grab	EPA-200,7 Rev-4,4
Cadmium, TR	ug/L	*	<u> </u>	*		7-23-14	GiAD	SM-3111 B-99
Chromium (III), TR	ug/L	*	<u> 55</u>	*		7-23-14	Grab	5m-3111B/3500-C/B-D/
Chromium (VI), TR	ug/L	*	(5	*		7-07-14	Erab	5m 3500-Cr B.01
Iron, TR	ug/L	*	350	*		7-23-14	Grab	Sm-3/11 B.29
Mercury, TR	ug/L	*	<u> </u>	*		7-23-14	Grap	5m3/12 B-99
Nickel, TR	ug/L		2.7			7-23-14	GrAD	5m3111 B-89
Selenium, TR	ug/L	*	< 5	*		7-23-14	Grah	EPA-200.7 Rcv.4.4
Silver, TR	ug/L	*	<2	*		7-23-14	Grah	5m3/11 B99
Thallium, TR	ug/L	*	<b>\langle 5</b>	*		7-23-14	Grah	EPA-200.7 RED. 4,4
SIGNATURE AND TITLE OF IN	DESIGNEE AF	,			DATE S. 20-14 DATE	PHONE NUMBER 573-6833325 PHONE NUMBER	EMAIL ADDRESS:  EMAIL ADDRESS:	
1 Oly Ko	Deer	<u>ر</u>	•		8-20-14	573683325		

Return form to: Missouri Department of Natural Resources

<sup>(</sup>IF VIOLATION OCCURRED, PLEASE ATTACH EXPLAINATION OF POSSIBLE CAUSE)



### MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER POLLUTION CONTROL PROGRAM

#### MONTHLY MONITORING RECORD FOR WASTEWATER TREATMENT FACILITIES

CHAR	FACILITY LESTO	N W	WTI					STON,	MO .	COUNTY/REGION MISSISSIPPI/SERO TYPE TREATMENT FACILITY					
FOR THE	MONTH OF	201	4	OUTFALL 1		5	17 NUM -012(					ÆNT FACI ERATE		OON	
		INFLU	ENT						-	EFI	FLUENT				
DAY	FLOW: MGD GPD  INF.OR EFF.	· PH UNITS	BOD mg/L	TOTAL SUS. SOLIDS mg/L	TEMP °F (C)	BOD5 mg/L	PH SU	TOTAL SUS. SOLIDS mg/L	NH3 mg/L	O&G mg/L	SAMPLE TEMP C	Antimony TR mg/L	Copper TR ug/L	Lead TR ug/L	
i ·	1.030	7.03			240		8,04				27.3				
2															
3	15.5-		1		0.0		~	A	14		20.	<u> </u>	<u> </u>	igspace	
4 5	1.008	7.04	149	173	24.2	7.70	373	8	(\$1050)	<u>(</u> 5	28.2	ļ			
6	1.078	7,12			241	<u> </u>	8.35		-	<u> </u>	28.5			╂─┼	
7	1,011	7. 7.09		_	24,7	<b></b> -	8.42 8.31		<u> </u>	<b> </b>	28,4 28,5			╂╼╌╂╴	
8	1.036 1.024	6,98			24.2		8.17				28.5			╁╾┼	
9	1.11.24	$Q \in \mathcal{D}$		<del></del>	7412		601.7	·			62(2°)	<u> </u>		╁╼╼┼╴	
10			<del>- u . · ; · ···</del>											<del>                                     </del>	
11	1.3.32	7,24	166	84	24.8	4.72	855	7	0.050		28.6	(0.00200	4,6	K00200	
12	980	7,28			24.7		8,41				28.5				
13	108	7.10			248		8.06			·	28.7	:			
14	931	7.19			24.8		8.23				279				
15	1.026	713	r 		243		8.20				28.5				
16					· ·								<u> </u>	<u> </u>	
17	) * - *	200			200		0.00				200 0				
18 19	1026	7,05	<u>:</u>		24,6		8,23				28,2	·			
20	996	7.18	100	177	23.4 24.7	283	8.16 8.07	1	KD.050		28.5 28.2		<del></del>		
21	1.119	6.98	100	1/4	23,5		859	0	0000		25.8		<del> </del>	<del>                                     </del>	
22	490	7.03			23.9		8,22				25.7			<del>                                     </del>	
23 ·		2.00		<del>                                     </del>			0627				0 Di L				
24	·														
25	939	2.09	116	105	23,7	13.2	807	7	(D1050		243				
26	993	6.89			241		7,62				31.2				
27	961	7.00	·	. ·	23.7		840				305				
28	1.276	7.0.3	· · · · · · · · · · · · · · · · · · ·		23.7		7,21				30,5		<del>, ,,</del>	<del>                                     </del>	
29	1.086	7.12			23.5		8.12				29,9	· .		<del>                                     </del>	
30 31													<del></del>		
No.of Samp.	71	21.	4	+	21	ıj .	21	4	4		21			<del>                                     </del>	
Fot of Samp.	210	149	531	338		38,45	123	28	0.2		606			<del>  -</del>	
Monthly	985		133	84.5	29.1	9,61		7	0.05		28.8				
Daily Max.	1.332	7,28	166	109	24.8		859	8	10.050		31.2				
Daily Min.		689	Carrier of Carrier (Carrier Carrier)				7.62								
Weekly Avg.															
Percent			CATA	04290											

OPER	ATIO	NAL (	CONT	ROL PA	RAMETE	RS			ie.
			rig		SUSP.				
	РН	. ,	EF.	SET SOLIDS	SOLIDS MIXED	SETTLEABILITY MIXED LIQUOR	 	RAIN AND	ved f the
DATE	UNITS	ALK. ml/l	·	. RAW ml/l	LIQUOR mg/l	mVI .	· TEMP F-C	WEATHER	ierwise. Use "Standard Methods" or an approved deconly at the time of composite sampling of the CSR 20-9,010. Review your permit for specific attiral Resources.
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8 .	<u> </u>		8:33	<i>:</i>	,			PER	otherwise. Use "Standard Methods" or leed be only at the time of composite ss 10 CSR 20-9.010. Review your permit Natural Resources.
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· 13 .			•	· ·	· · · · · · · · · · · · · · · · · · ·	1		PC	I monthly for each treatment facility.  Tice as noted in your permit and keep one copy in your files.  y an appropriate official,  S-snow, C-clear, P.Cpartly cloudy and O-overcast.  s for all operational control test.  and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods" or an approved rinfluent or effluent. Lagoon influent flow measurements need be only at the time of composite sampling of the FES Permit Conditions and Operational Control Regulation 10 CSR 20-9.010. Review your permit for specific as must be reported immediately to the Department of Natural Resources.
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16				•	:				monthly for each treatment facility.  The as noted in your permit and keep one copy in you wan appropriate official.  Senow, C-clear, P.Cpartly cloudy and O-overcast.  Sor all operational control test.  and Suspended Solids test unless NPDES permit indicated to effluent. Lagoon influent flow measurem ES Permit Conditions and Operational Control Regulary and the Department or effluent immediately to the Department of the Defore entering digesters and/or holding tanks
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18			8.23		<i>:</i> :		100	PC	Ldy NP NP NP (Jot fy tc ldy tc
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COMIV	1ENT	S 🔆	٠.	•	•				Fill out one copy of report each month and mail in original monthly for each treatmodail original of report to the appropriate DNR regional office as noted in your pern Reports must be signed by whoever performed tests and by an appropriate official. In the weather column, use the following symbols: R-rain, S-snow, C-clear, P.Cp Use grab sample for pH, Temp, and D.O. Use grab samples for all operational contucts and for all parameters.  Treatment plant flow measurements may be made on either influent or effluent. Laginement plant flow measurements may be made on either influent or effluent. Laginements.  Unusual conditions, significantly affecting operations must be reported innicements.
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ESTER	-^^\@^	BY: PLEA	LSE PRIN	ntal	Analu	15,5 South	TIPLE LA	Э :	573-204-8817 PATT9-9-14
IGN TUR	É OF OW	NER OR D	ESIGNEE	APPROVING	REPORT	:	TE 1	: .	PHONE # 2 683-2275 PATE 9-14
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#### MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER POLLUTION CONTROL PROGRAM MONTHLY MONITORING RECORD FOR WASTEWATER TREATMENT FACILITIES

	FACILITY				~ ~	CITY	30 X X	COLONI	3 4 (		VTY/REG			. /	-
	RLESTO	N M						STON,	MO.	<u> </u>		IPPI/S			
	MONTH OF			OUTFALL		I .	IT NUM					ERATE		'^^N	
SEYT	EMBER	201	4	00:	<u> </u>	MO	-012	nast		30	للا علىك		U LAG	MOON	
		INFLU	ENT							EF	LUENT			·	
DAY	FLOW: MGD GPD INF.OR EFF.	PH UNITS	BOD mg/ L	TOTAL SUS. SOLIDS mg/L	· F · C	BOD5 mg/L	PH SU	TOTAL SUS. SOLIDS mg/L	NH3 mg/L	O&G mg/L	SAMPLE TEMP C	Antimony TR mg/L	Copper TR ug/L	Lead TR ug/L	Zit TI ug/
1 .	:	<del>                                     </del>		1	<del>                                     </del>	<b></b>	<b> </b>		1					<del> </del>	<del>                                     </del>
2	1.089	752	133	97	21.5	808	453	7	(0.050	K3	28.2	<.002	. 3	(200	73
3	909	7.09			125	1020	820				28.0	300		1	
4	1.232	7.18			21.9		8.26				28.5				
5	1.020	17.05			23.1		807				289				
6															
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8	.953	7.15	203	170	22.8		8.42	7	KO.450		268	·			
9	1:001	7.18			224		825				26,5				
10	1.183	110			21.7		18.13				24.3			<u> </u>	
11	1.099	7,20			215		8,21				23.6	: •			
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15	1013	7:13	157	1120	23.0	7.40	8.47	7_	KO.050		23.5				
16	,912	7.09			23.4	<u></u>	8.40				22.4			· .	
17	.415	7.05			23.4		831		ļ		225				
18	1988	7.04		ļ	23.2		8.41		<u> </u>	·	23.5			<u></u>	
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22	1,119	7.10	230	801	23.1	7.66	1876	7	KOUSO		23.1				
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25	1035	2.02			22.7		8.36				221				
26 · · · · · · · · · · · · · · · · · · ·	1.096	698			22,5		8H2				229				
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ot of Samp.	212	148.8	951	1/19	476.1.	3161	2 l 124d	<u>3</u> 4	5 025		21				
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	PH UNITS	ALK. mi/i	EH- DO mg/l	· ·SET SOLIDS · RAW mi/i	SOLIDS MIXED LIQUOR mg/l	SET	TLEABILITY ED LIQUOR m//	TEMP F-C	RAIN AND WEATHER	Jse "Standard Methods" or an approved at the time of composite sampling of the 3,010. Review your permit for specific isources.
DATE	OMIS	ALK. BIV	DO mg/t	. KAWIIDI	indoor mak			1EIVIF F-C	WEATHER	Methods" or an approved composite sampling of the your permit for specific
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3		l	7. 2.1		<u> </u>	<u> </u>	<del>:</del>	7	150	ds"
4		· · · ·	8:21		<del></del>	<u> </u>			12	monthly for each treatment facility.  ice as noted in your permit and keep one copy in your files.  y an appropriate official.  S-snow, C-clear, P.Cpartly cloudy and O-overcast.  sfor all operational control test.  and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods" influent or effluent. Lagoon influent flow measurements need be only at the time of composite strain to Conditions and Operational Control Regulation 10 CSR 20-9.010. Review your permits must be reported immediately to the Department of Natural Resources.
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6 .	<u>  :</u>	····	ļ			٠.		••	ļ·	monthly for each treatment facility.  ce as noted in your permit and keep one copy in your files.  S-snow, C-clear, P.Cpartly.cloudy and O-overcast.  for all operational control test.  Influent or effluent. Lagoon influent flow measurements need be only at the time of S Permit Conditions and Operational Control Regulation 10 CSR 20-9.010. Review must be reported immediately to the Department of Natural Resources.
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		٠.		•	: .	•	•	• :		1. Fill out one copy of report each month and mail in original regional office.  2. Mail original of report to the appropriate DNR regional office.  3. Reports must be signed by whoever performed tests and by 4. In the weather column, use the following symbols: R-rain, 5. Use grab sample for pH, Temp, and D.O. Use grab samples 6. Use 24 hr. composite (proportional) samples for B.O.D. 5, a equal for all parameters.  7. Treatment plant flow measurements may be made on either influent. All test must be performed in accordance with NPDE requirements.  8. Unusual conditions, significantly affecting operations
	•	· ;		₹.		: *	: :			1. Figure 1. Fig
STS PERI	FORMED	BY: PLEA	SE PRINI	· \ r	· · ·	**	<del>: - 1</del>	TITLE / N la	· <u>·</u> ····	PHONE 7
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# MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER POLLUTION CONTROL PROGRAM MONTHLY MONITORING RECORD FOR WASTEWATER TREATMENT FACILITIES

CHARLESTON WWT LAGOON FOR THE MONTH OF FOR HEADY BY CHARLESTON, MO  RISSISSIPPI/SERO  THE TRANSPORT OF  NFLUENT	CALLAGE OF	TO A COST TOTAL	· · · · · · · · · · · · · · · · · · ·		<del></del>		1 cymrz				Loor	TITIV CO TO CO	YON			
Note   Note			N W	WTL	AGOO	N	CITY	RLE	STON,	MO				ERO	•	
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DAY   RECEIPT   INSTER   INS	•		. PH	BOD	TOTAL	TEMP.	ROD5	PH	TOTAL	NH3	0&G	SAMPLE	Antimony	Conner	Lead	Zina
NEFOREET   NUMBER	DAY	20			SUS.	1.50			SUS.			TEMP	TR	TR	TR	TR
2 9.9.0 7.07 2.3.5 9.03 24.1 4 4 6.9.1 2.3.6 8.17 24.3 4 4 5 5 6 1.0 \( \) 7.20 705 6.5 2.3.7 7.12 8.16 16 \( \) 6 6 1.0 \( \) 5 7.20 705 6.5 2.3.7 7.12 8.16 16 \( \) 6 6 1.0 \( \) 5 7.20 705 6.5 2.3.7 7.12 8.16 16 \( \) 6 6 1.0 \( \) 6 7.20 705 6.5 2.3.7 7.12 8.16 16 \( \) 6 8.50 \( \) 5 2.3.5 \( \) 7.12 8.16 16 \( \) 6 8.50 \( \) 5 2.3.5 \( \) 7.12 8.16 16 \( \) 6 8.50 \( \) 7.14 4 7.9 6 7.44 7.14 7.15 7.15 7.15 7.15 7.15 7.15 7.15 7.15		<u> </u>						<u> </u>			<u> </u>	<u> </u>			1,02	ug n
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6   D\S   7.20   D\S   6.5   23.4   7.12   8.15   16   60.50   S   23.5   1.002   C   2.006   3   7					<b></b>				<u> </u>	<b></b> -	ļ			<b></b>	<b> </b>	
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6   D\S   7.20   DS   GS   23.4   7.12   8.15   16   6650   S   23.5   6.00 \( \) \(					<u> </u>	<u> </u>				<del> </del>	<u> </u>	<b> </b>				
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28   19.2   7.26   20.4   7.80   /8.5   29   7/62   7.27   20.1   7.15   /8.0   30   1.53   7.05   /9.8   8.13   /8.1   31   1077   7.17   /8.6   8.26   /8.0   No.of Samp.   22.4   4   22   4   4   22   Tot of Samp.   22.8   1383   769   216   452.9   35.7   /82.2   47   0.2   435.7    SMORTHLY   1.036   192.2   69   20.5   8.92   11.25   0.05   19.8   Daily Max   1.296   7.44   37.1   8.2   23.6   15.8   7.57   16   6.98   Weekly Avg.									·							
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Weekly Avg.	Daily Min.															
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	Percent Removal			95%	8390											

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OPERATIONAL	CONTROL	PARAMETER	S

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	РН		EFF	SET SOLIDS	SUSP. SOLIDS MIXED	SETTLEABILITY MIXED LIQUOR	:	RAIN AND	ed
DATE	UNITS	ALK. ml/		. RAW mL/I	LIQUOR mg/l	Mm	TEMP F-C	WEATHER	th and mail in original monthly for each treatment facility.  riate DNR regional office as noted in your permit and keep one-copy in your files.  performed tests and by an appropriate official.  wing syntholis: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  D.O. Use grab samples for all operational control test.  samples for B.O.D. 5, and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods" or an approved may be made on either influent or effluent. Lagoon influent flow measurements need be only at the time of composite sampling of the accordance with NPDES Parinit Conditions and Operational Control Regulation 10 CSR 20-9.010. Review your permit for specific Affecting operations must be reported immediately to the Department of Natural Resources.  hould be taken either before entering digesters and/or holding tanks or after removal from digesters or holding tanks.
. 1	L	<u> </u>	8.65	· ·			24.3	PC.	inal monthly for each treatment facility.  loffice as noted in your permit and keep one copy in your files.  d by an appropriate official,  ain, S-snow, C-clear, P.Cpartly.cloudy and O-overcast.  ain, S-snow, C-clear, P.Cpartly.cloudy and O-overcast.  belies for all operational control test.  5, and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods" or an appropriate influent. Lagoon influent flow measurements need be only at the time of composite sampling of PDES Permit Conditions and Operational Control Regulation 10 CSR 20-9.010. Review your permit for specifions must be reported immediately to the Department of Natural Resources.  ther before entering digesters and/or holding tanks or after removal from digesters or holding tanks.
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#### MISSOURI DEPARTMENT OF NATURAL RESOURCES NPDES MONITORING REPORT FOR STORMWATER AND WASTEWATER DISCHARGES Quarterly Sampling - Quarterly Reporting

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CHARLESTON WW MO-0120081 MISSISSIPPI COUN		ON	Owner Addr	// // /	rleston 34	Address Change for	or Owner:   Billing	Facility Address:	WWT		
THIS REPORT COVE  1st Quarter = Janua  Due by April   NO DISCHARGE FOR	ry through M 28 <sup>th</sup> ,20	arch	2 <sup>nd</sup> Qua <b>D</b> ue	arter = April thro by July 28 <sup>th</sup>	ugh June	3 <sup>rd</sup> Quarter = . Due by Octobe	July through September r 28 <sup>th</sup> ,20	Due by Janua	per through December ary 28 <sup>th</sup> ,20 <b>15</b>		
Samples Collected By:	The second secon		•		Phone:	Analyses Performed b	y (LAB):		Phone:		
		<del>, , , , , , , , , , , , , , , , , , , </del>	•	<del> </del>	OUTF	ALL 001	·				
			PERMITTED FINAL LIMITS		DATE	ANALYSIS	SAMPLE TYPE		YTICAL THOD		
PARAMETER	MAX			MONTHLY AVG	TIME	DATE	·				
Cyanide, Amenable to Chlorination	ug/L	*	<0.005	*		10-21-14	Grab	LAChal CU2	15m-4500 CNG		
Arsenic, TR	nation ug/L \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\					10-17-14	Grab	EPA-200.7 RE	V. 4.4		
Beryllium, TR .	ug/L	*	121	*		10-17-14	Grab	EPA-200.7 Rev. 4,4			
Cadmium, TR	ug/L	*	<3	*		10-14-14	Grab	5m 3111 B-	.95		
Chromium (III), TR	· ug/L	*	<b>\( \lambda \)</b>	*		10-06-14	Grab	5m3111 B/3	500CC B-01		
Chromium (VI), TR	ug/L	*	<b>  </b>   <b>  </b>   <b>  </b>	*		10-17-14	Grah	5m-3500C	r B01		
ron, TR	ug/L	*	<b>  &lt;20</b>	*		10.09:14	Grah	5m-3111 B-	·99		
√lercury, TR	ug/L	*	140.2	*	<u> </u>	10-23-14	Grap	5m:3112 B	79		
Vickel, TR	ug/L	*	<15	*		10-14-14	Grab	5m 3111.09	9 .		
Selenium, TR	ug/L	*	<10	*		10-17-14	Grab	EPA-200.7 R			
lilver, TR						10-14-14	STAD	5m3111 B-9			
hallium, TR						10-17-14	Grah	EPA-200.7	Rev. 4.4		
IGNATURE AND TITLE OF INDIVIDUAL PREPARING REPORT					DATE 11-14	PHONE NUMBER 573683 3325	EMAIL ADDRESS:				
IGNATURE OF OWNER OR	DESIGNEE A		POR		DATE 11-17-14	PHONE NUMBER	EMAIL ADDRESS;				

F VIOLATION OCCURRED PLEASE ATTACH EXPLAINATION OF POSSIBLE CAUSE)

\* - Monitor and Report

Return form to: Missouri Department of Natural Resources
Southeast Regional Office
2155 North Westwood Blvd.

Poplar Bluff MO 63901



## MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER POLLUTION CONTROL PROGRAM MONTHLY MONITORING RECORD FOR WASTEWATER TREATMENT FACILITIES

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FOR THE	EMONTH OF	. <u>201</u>	4	OUTFALL 1			1T NUM -012					ERATE		OON	
		INFLU	ENT							EFI	LUENT				
DAY	FLOW: MGD GPD  INF.OR EFF.	PH UNITS	BOD mg/L	TOTAL SUS. SOLIDS mg/L	TEMP °F C	BOD5 mg/L	PH SU	TOTAL SUS. SOLIDS mg/L	NH3 mg/L	O&G mg/L	SAMPLE TEMP C	Antimony TR mg/L	Copper TR	Lead TR ug/L	
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5	1.333	7.12			18.1		8.17				120				
6	.952	712			18,4		8.46		ļ		129				
7	1.112	7.25		<u>.</u>	17.8		8.50		ļ		140	<u> </u>	<u> </u>	<u> </u>	
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11	1-1	7.10	234	128	16.5	137	839	7	K0.050		11.7		ļ	<b> </b>	<u> </u>
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18	1.011	713			15,7	<u> </u>	8.24	<u> </u>	1.0-0		45				
19	1,022	7.20			15.5		8.53				8.5				
20	1,035	7,24			14.9		8,34				618				
21	1,128	7.11			16.2		831				8,2				
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24	1,294	7,31	105	61		8.07		15	0.44		8.1			·	
25	1,170	7,24			15.8		8.53				8,5				
26	1.05.5	7.1.0		<u> </u>	15.6		8,48		<b> </b>		9,2				
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Tot of Samp.	173	1214	625	356	2818	41,3	142	45	3(3)		176.4				
Monthly	1.076		1967	189	16.5	10.3		1125	D.129		10.3				
Daily Max.	1,294	7,31	234	128	18:4	13.5	8.65	13	0.44		16,0				
Daily Min.		6,99					8.11								
Weekly Avg.									1					}	
Percent Removal			93%	187%											

	PН		EFF	SET SOLIDS	SUSP. SOLIDS MIXED	SETT MIX	LEABI	UOR			RAIN AND				ved	sampling of the it for specific	•	
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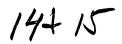


### MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER POLLUTION CONTROL PROGRAM

#### MONTHLY MONITORING RECORD FOR WASTEWATER TREATMENT FACILITIES.

	FACILITY LESTO	NT WAT	XX/T T	ACOO	TAT	CHA	RIE	STON,	MΩ	8	NTY/REG	ION IPPI/S	FDΩ		-
	MONTH OF	TA AA		OUTFALL			IT NUM		1410	<u> </u>		MENT FAC			
-	EM BEG	2 201		00		1	-012					ERATE		OON	Į
WL C	LIVILLE					1120									
	FLOW:	INFLU	ENI	T	1	├	T.		T	EFFLUENT					
DAY	MGD GPD	· PH UNITS	BOD mg/L	TOTAL SUS.	TEMP °F(C)	BOD5 mg/L	PH SU	TOTAL SUS.	NH3 mg/L	O&G mg/L	SAMPLE TEMP	Antimony TR	Copper TR	Lead TR	
	INF.OR EFF.			SOLIDS mg/L				SOLIDS mg/L			С	mg/L	ug/L	ug/L	
1	1,049	7.26	194	168.	15.6	6,56	847	17	0.75	25	8.9	C,062	<b>C</b> 2	K.062	ţ
2	1.0.30	113			15.9	V P	8.12		1	\ <u>\</u>	7.9		-	1	Ť
3	1.0.21	7.11			15.6		8.05				7.5				T
4	1.107	7.11			15.8		8.31				8.3				T
5	1.156	7.01			15.2		863				9.5				
6	, .														
7				<b>.</b>											
8	1,030	7.60	104	167	15.4	9,25		14	2.0		8.9			<u> </u>	L
9	1,041	7.29			15.6		8.51				8.6			1	
10	1,008	7.10			15.9		8.46				8.8				L
11	964	7.34			15,5		8.72				8.5				Ļ
12	952	7112		ļ	15,7		<u>851</u>				9,1		·	<u> </u>	Ļ
13				ļ						•				<u></u>	L
14	1 4 4 9		2.	1.22	100	01 =	0	1 /		, , ,	Q c			<u> </u>	Ļ
15	1,112	7.22	200	133		26.7		16_	3.2		8.4				ļ.,
16 17	1,046	7.15		<del> </del>	153		<u> 330</u>				9,2				Ļ
18	1.022	7.18		<del> </del>	15.2		834	<del>-7</del>			9.0				▙
19	1,109	7.10			15.1		805				8.8				
20	.986	7,27			<i>15.</i> ≤		8.29				8.5		· · ·		_
21		•													┝
22	1.142	7.26	110	95	15.8	1,20	225	13	4.31	<del></del> }	7.0		-		L
23 ·	1,054	7,29	110	1 - 2	17		8.61		4.71		70		<del></del>		H
24	1.077	7.10	·		16.6		886				7.5				一
25	11	1110		<del>  .                                   </del>	1121		DOV				16-2				一
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27			•	1			1								厂
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29	1.150	7.26	143	70	16.8	9.48	8,65	5	6.21	ľ	7,3				
30	1.068	7,20			14.7	·	8.69				61				
31	1,004	7.18			15.2		851				5.8				
lo.of Samp.	21	21	5	5	21		21	5	3		21				
ot of Samp.	22.0	151	751	533	3291	59.19	177	65	16.4		164.3				Ŀ
	1,054	1.	1502		<i>15</i> .6	118		13	3.29		7.8				L
aily Max.	1,156	7.60	194	168	16.9		886	16	6,21		9,5				<u>_</u>
Daily Min.		7.01					805								L
Veekly Avg.			0.00	്യൂട്ട് സ											
ercent Removal			727	88 %											麟

OPER	ATIO	NAL (	CONT	ROL PA	RAMETE	RS	<u> </u>		
DATE	PH UNITS	ALK. ml/	EFF Do mg/l	· SET SOLIDS	SUSP. SOLIDS MIXED LIQUOR mg/l	SETTLEABILITY MIXED LIQUOR MIX	TEMP F-C	RAIN AND WEATHER	1. Fill out one copy of report each month and mail in original monthly for each treatment facility.  2. Mail original of report to the appropriate DNR regional office as noted in your permit and keep one copy in your files.  3. Reports must be signed by whoever performed tests and by an appropriate official.  4. In the weather column, use the following symbols: R-rain, S-snow, C-clear, P.Cpartly, cloudy and O-overcast.  5. Use grab sample for pH, Temp, and D.O. Use grab samples for all operational control test.  6. Use 24 hr. composite (proportional) samples for B.O.D. 5, and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods" or an approved squal for all parameters.  7. Treatment plant flow measurements may be made on either influent or effluent. Lagoon influent flow measurements need be only at the time of composite sampling of the influent. All test must be performed in accordance with NPDES permit Conditions and Operational Control Regulation 10 CSR 20-9.010. Review your permit for specific requirements.  8. Unusual conditions, significantly affecting operations must be reported immediately to the Department of Natural Resources.  9. Representative sludge samples should be taken either before entering digesters and/or holding tanks or after removal from digesters or holding tanks.
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· 12			13.18	· · · · · · · · · · · · · · · · · · ·			<del>                                     </del>	1.1ºC	files ates ates ion reaff
	•	-	-	<del>                                     </del>		<u> </u>	<u>                                     </u>		monthly for each treatment facility.  Tice as noted in your permit and keep one-copy in your files.  y an appropriate official,  S-show, C-clear, P.Cpartly cloudy and O-overcast.  S-show, C-clear, P.Cpartly cloudy and O-overcast.  and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods" and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods" influent or effluent. Lagoon influent flow measurements need be only at the time of composite ES Permit Conditions and Operational Control Regulation 10 CSR 20-9.010. Review your permits must be reported immediately to the Department of Natural Resources.  I before entering digesters and/or holding tanks or after removal from digesters or holding tanks.
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COMIN	LENT	S			•			:	1. Fill out one copy of report each month and mail in original monthly for each treatment facility.  2. Mail original of report each month and mail in original monthly for each treatment facility.  3. Reports must be signed by whoever performed tests and by an appropriate official,  4. In the weather column, use the following symbols: R-rain, S-snow, C-clear, P.Cpartly cloudy and O-overcast.  5. Use 24 hr. composite (proportional) samples for B.O.D. 5, and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods" or an approve equal for pH, Temp, and B.O.D. 5, and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods" or an approve equal for all parameters.  7. Treatment plant flow measurements may be made on either influent or effluent. Lagoon influent flow measurements need be only at the time of composite sampling of the influence of the influence of the influence of the influence of the influence of the influence of the influence of the influence of the influence of the influence of the influence of the influence of the influence of the influence of the influence of the influence of the influence of the influence of the influence of influence o
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MAIL ADD	PECC OF	PERSON	APPROV	ING REPORT (	OPTIONAL 1-		. 1		





# MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER POLLUTION CONTROL PROGRAM MONTHLY MONITORING RECORD FOR WASTEWATER TREATMENT FACILITIES

	FFACILITY RLESTO	N W	WTL	AGOO	N			STON,	МО	М		IPPI/S			
l _	MONTH OF	201	1	OUTFALL 1			1T NUM -012	BER 0081		· ·		ÆNT FACI ERATE		OON	
		INFLU		<del> </del>		<b>†</b>				EFI	FLUENT		····	~ <u>~~~</u>	-
DAY	FLOW: MGD GPD  INF.OR EFF.	· PH UNITS	BOD mg/ L	TOTAL SUS. SOLIDS mg/L	TEMP °F °C	BOD5 mg/L	PH SU	TOTAL SUS. SOLIDS mg/L	NH3 mg/L	O&G mg/L	SAMPLE TEMP C	Antimony TR mg/L	Copper TR ug/L	Lead TR ug/L	Zi T ug
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. 2	.995	7.18			14.6		18.09								
3		<u> </u>													
4					<u> </u>				<u> </u>	<u> </u>	<u> </u>				
5	1,243	7.23	191	85	14.0	33.1			8.28	<u>K5</u>		0.000622	(2_	£200	く
6	1,089	204		<u> </u>	14.3		8.06		<b> </b>	<u> </u>	41	ļ		<u> </u>	<u> </u>
<u>7</u> 8	1.030	7.06	<del> </del>		142		8.36	<b></b>	<del> </del>	<del> </del>	43			<del> </del>	<u> </u>
9	1:137	7.35			14.4		8.26	<u> </u>	<del> </del> -		4.0 3.9				├
10	1.180	7.24	<b> </b>	+	14,5		8.41	<b>}</b>	<del> </del>		9,7			<b> </b> -	├
11 .	<del> </del>	<u> </u>		<del> </del>	1			}	<del> </del>		<b></b>	: •			<del> </del>
12	1.11/	7.09	57,2	48	14.7	23.3	8.20	5	10.4		28				<del> </del>
13	1.120	6.96	~/ 5/ ~	1	1.3.8	~~,	7.51		1		1.7			<u> </u>	一
14	1.275	7.22	:		12.3		8.62				1.8				
15	1.365	200			12.4		8.45			-	1.9				
16	1.064	6,63			12.8		8.16				2.6		-		
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19	<u>H</u>										,,				
20	1.156	7.39	173	93.	13.5	329		3	11.4		61				<u> </u>
· 21	1084	2.20			13.0		8,49		ļ		5,0				
22	1.038	7.41		<b></b>	12.6		840	•			53				
24	1.335	7,05	'n		12,7		8.63	··			5.2				
25				<del> </del>				<del></del>							
26	1.394	7.6.5	60.7	158	12.3	11.3	835	5	11.8		5.1				-
27	1,267	7.20	LOD I	120	12.5	11.5	7,74		1110		5.Z				
28	1.208	7.15			12,3		7.83				5.1				
29	1.147	7.35		1	12.5		8,12				5.7				
. 30	1,221	7.12			12.7	·	7.83				6.2				
31															
No.of Samp.	20	20	4	4	20	4	20	4	4		20				
Tot of Samp.	22.3	136	482	284	266	100.6	113	18	4188		84,2				<u>.</u>
Paris Mar	1.1183		120	71	13.3	251		4,5	10.5		4,2				
Daily Max. Daily Min.		741	191		14.7	33.1	8.63	5	118		6.2		a plate a se		
Weekly Avg.		663					7,72								
Percent Percent			720	1 000											
Removal			175%	95%											

) DATE	PH UNITS	ALK mij	EFF DO mg/l	SET SOLIDS . RAW ml/l	SUSP. SOLIDS MIXED LIQUOR mg/l	SETT MIXI	LEABILITY ED LIQUOR mVI	TEMP F-C	RAIN AND WEATHER	or an approved	influent or effluent. Lagoon influent flow measurements need be only at the time of composite sampling of the S. Perinit Conditions and Operational Control Regulation 10 CSR 20-9.010. Review your permit for specific manst be reported, immediately to the Department of Natural Resources.
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13.						<u>,</u>	· ·		1.C :	monthly for each treatment facility.  ice as noted in your permit and keep one copy in your files.  y an appropriate official,  S-snow, C-clear, P.Cpartly cloudy and O-overcast.  for all operational control test.  and Suspended Solids test unless NPDES permit indicates otherwise. Use "Standard Methods"	influent or effluent. Lagoon influent flow measurements need be only at the time of composite is Permit Conditions and Operational Control Regulation 10 CSR 20-9.010. Review your permits and object of the Department of Natural Resources.
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16			14.21			:	:		1.PC		ontr e D
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NiÁTIA	ŒNT	ه 			٠	: 				1. Fill out one copy of report each month and mail in original monthly for each treatment fac.  2. Mail original of report to the appropriate DNR regional office as noted in your permit and  3. Reports must be signed by whoever performed tests and by an appropriate official.  4. In the weather column, use the following symbols: R-rain, S-snow, C-clear, P.C-partly.cl  5. Use grab sample for pH, Temp, and D.O. Use grab samples for all operational control test.  6. Use 24 hr. composite (proportional) samples for B.O.D. 5, and Suspended Solids test unles	equal for all parameters.  7. Treatment plant flow measurements may be made on either influent or effluent. Lagoon influent flow measurements need be only at the tim influent. All test must be performed in accordance with NPDES Permit Conditions and Operational Control Regulation 10 CSR 20-9.010. Represents.  8. Unusual conditions, significantly affecting operations must be reported immediately to the Department of Natural Resources.
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IS PER	FORMED	BY: PLE	SE PRIN	· · ·	···	<u> </u>	<del>:</del>	mile/ o/	· <u>·</u> ····	HOVE # 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DATE (- /
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# MISSOURI DEPARTMENT OF NATURAL RESOURCES NPDES MONITORING REPORT FOR STORMWATER AND WASTEWATER DISCHARGES Quarterly Sampling – Quarterly Reporting

CHARLESTON WW MO-0120081 MISSISSIPPI COUN		OŃ	Owner Addr 204		in st	Address Change fo	or Owner: 🗆 Billing 🗆	Facility Address:		
THIS REPORT COVE  1 <sup>st</sup> Quarter = Januar  Due by April	y through M	larch .	2 <sup>nd</sup> Qua	in the box ben earter = April thro by July 28 <sup>th</sup>	ugh June		fuly through September r 28 <sup>th</sup> ,20	4 <sup>th</sup> Quarter = October through December  Due by January 28 <sup>th</sup> ,20		
NO DISCHARGE FO	OR QUART	er 🗆	NO DISC	HARGE FOR	QUARTER 🗆	NO DISCHAR	NO DISCHARGE FOR QUARTER 🗌			
Samples Collected By:					Phone:	Analyses Performed b	``\` M\\.	Phone:		
(10len K	orles	سراسيد			573-683 3.25		contel Anglysi	5 South 573-204-8817		
	0					ALL 001				
			PERMITTED FINAL LIMIT	S	1-5-2015	ANALYSIS	SAMPLE TYPE	ANALYTICAL METHOD		
PARAMETER	צדוּאָט	DAILY MAX	WEEKLY AVG	MONTHLY AVG	TIME	DATE	. :			
Cyanide, Amenable to Chlorination	ug/L	*	(0.005	*		1-08-15	Grab	Lachat CN2/5M-4500 CNG		
Arsenic, TR	ug/L	. *	6	· *		1-13-15	Grab	EPA-200,7 RCV. 4.4		
Beryllium, TR	ug/L ·	*	<1	*		1-13-15	Grab	EPA-200,7 Rcv. 4.4		
Cadmium, TR	ug/L	*	(3	*		1-15-15	Grab	Sm-3111 B-99		
Chromium (III), TR	ug/L	*	33	*		1-15-15	Grab	5m 3/11 B-99		
Chromium (VI), TR	ug/L	*	135	*		1-16-15	GrAb	5m 3111 399		
Iron, TR	ug/L	*	339	.*		1-13-15	Grab	5m-3111 1399		
Mercury, TR	ug/L	*	10.2	*		1-09-15	GrAD	5m-3/12 B99		
Nickel, TR	ug/L	*	<13	*		1-15-15	Grab	5m.7/11 B79		
Selenium, TR	ug/L	*	<b>                       </b>	*		1-13-15	Grab	EPA-200, 7 Rev. 4.4		
Silver, TR	ug/L	*	<b>\( \)</b>	*		1-15-15	Grah	SM 3111 B-99		
Thallium, TR	ug/L	*	<3	. *		1-13-15	Grah	EPA-200,7 Rev. 4,4		
SIGNATURE AND TITLE OF IN	DIVIDUAL PR	_			DATE	PHONE NUMBER	EMAIL ADDRESS:			
Illen Coop	ers	Oper.			2-18-15	523-683 332				
SIGNATURE OF OWNER OR	. •			(LAb)	DATE	PHONE NUMBER	EMAIL ADDRESS;	•		
Environment	al H	45/25/3	5004	<del>                                      </del>	2.15-15	573-204-8817	,			

(IF VIOLATION OCCURRED, PLEASE ATTACH EXPLAINATION OF POSSIBLE CAUSE)

Return form to: Missouri Department of Natural Resources

\* - Monitor and Report

Southeast Regional Office 2155 North Westwood Blvd.

<u>Q</u>	
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MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM – WATER POLLUTION BRANCH
SEMI-ANNUAL INFILTRATION & INFLOW REPORT

SEMI-ANNUAL INFILT	RATION & INFI	LOW REPORT	
MAIL TO: MISSOURI DEPARTMENT OF NAT	URAL RESOURCES		SEMI-ANNUAL REPORT DUE:
SOUTHEAST REGIONAL OFFICE 2155 NORTH WESTWOOD BLVD			APRIL 30 <sup>TH</sup>
POPLAR BLUFF, MO 63901 PERMIT NUMBER	COUNTY	THIS REPORT COVERS YEAR:	
MO0120081	MISSISSIPPI		ough March 31 <sup>st</sup> , 20 //
FACILITY NAME	PHÔNE #:	FACILITY ADDRESS	ough march of , 20 1
TACIETT NAME.	1110NL #.	0.4	^ <del></del>
CHARLESTON WWT LAGOON		Country Rd	215
OWNER NAME	PHONE #:	OWNER ADDRESS 216	
City of Charleston.	683-3325	CharLesTON	Ma 63834
9. The permittee shall develop and implement	<del></del>		
guidance is the US EPA's Guide For Eva			
Sanitary Sewer Collection Systems (Doc in April and October with the Discharge			
of infiltration and inflow into the collecti	on system serving the		
Please submit additional pages i	f needed.		
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			· · · · · · · · · · · · · · · · · · ·
Monthy I quested See atached shee We are planning to our system this	t for sew	er repairs during +	his period,
0 1,03	2001101100.		
•			
·			
REPORT COMPLETED BY		D	ATE
David Lessis			4-1-11
SIGNATURE OF OWNER OR DESIGNEE APPROV	ING REPORT	ים	ATE
Dard Hans			4-1-11
MO 780-1308 (7-04)	<del></del>		

#### Sewer Line Maintenance Repair Report

#### Sewer Maintenance Log

Date	Maintenance Performed	Initials	
7.77	· ·	6.500	
10-19-10	Replaced 13 of 8 claw with 8 SORT	DH	540
	Replaced 13 of 8 clay with 8 30185 666 Block of E. CYPIESS		
12-13-10	Service Country on Contract	₩ . ₩	541
	aprox-6 ft. of 6" Line at 115	D.R.	377
	W. Missouii 102 -		
1-19-11	D. Constall Sound and Contage		
7-111	Dug up Sanitary sower aus Replaces aprox. 4ft. of 4 Line and		
	INSTALLED Double Cleanout Risers		
	at 301 S. Finnely (Patrick Paymer House)	D. K.	541
2-17-11	Dug up Sanitary Sewel AND Replaces		and stone
: 	aprox 6 ft. of 4" Line and		
	Spstalled Double Cleanant Riseis	D.R.	541
	at son N. Main ( Swayne Byla House) Also about 3ft. Of 6" line		
tanly posterior Voctorioperistication and accordance		-	
Aminimatica Chipad magalami Anthonesia (con on ormania)			
			cyantaria.
CAN 144 MEN AN 1469 AND LICENT PRODUCE OF CREET SOCKERS		A require personners, sweet m	i i i i i i i i i i i i i i i i i i i
ALANTHUM TO THE THE THE STATE OF THE STATE O		Total racinosis, 1219 1007 PMIDDROO	
			-
TO A STREET OF THE PROPERTY OF		g cranmous yes ;	
			1
	W. C. C. C. C. C. C. C. C. C. C. C. C. C.		1

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4	<b>(4)</b>

# MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM – WATER POLLUTION BRANCH SEMI-ANNUAL INFILTRATION & INFLOW REPORT

MAIL TO: MISSOURI DEPARTMENT OF NAT	URAL RESOURCES	·	SEMI-ANNUAL REPORT DUE:
SOUTHEAST REGIONAL OFFICE 2155 NORTH WESTWOOD BLVD			APRIL 30 <sup>TH</sup>
POPLAR BLUFF, MO 63901			APRIL 30
PERMIT NUMBER	COUNTY	THIS REPORT COVERS YEAR:	
MO0120081	MISSISSIPPI	October 1 <sup>st</sup> , 20 11 thro	ugh March 31 <sup>st</sup> , 20 <u>12</u>
FACILITY NAME	PHONE #:	FACILITY ADDRESS	
	099 6040	0 1 01 0	15
CHARLESTON WWT LAGOON	233-5842	County Fd. of	13
OWNER NAME	PHONE #:	OWNER ADDRESS P.O. Box 214	
A-10/1-	-0. (6)2 220 6	P.O. 60x 214	( )%),,
City of Charleston	573-683-3325		
9. The permittee shall develop and implement			
guidance is the US EPA's Guide For Eva			
Sanitary Sewer Collection Systems (Doc			
in April and October with the Discharg of infiltration and inflow into the collecti			to locate and eliminate sources
Please submit additional pages i		lacinty.	•
Ticase submit additional pages i	i needed.		
<i>h</i> .	,		. 4
Decide .		· · · · ·	alla Palan
Month	oring reports	aready sent in l	my usen roogers
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DEPORT COURT ETER DV	<del></del>	- I nat	
REPORT COMPLETED BY		DAT	<u> </u>
0 1 1			(1212
Pavia Harris +	Denis K	aperi	4-3-12
SIGNATURE OF OWNER OR DESIGNEE APPROV	•	DAT	E
<u></u>			
1) 01/1 /10 1		4	-3-12
Nano Namo			0-12
MO 780-1308 (7-04)	4		



Sewer Line Maintenance Repair Report

Oct. 1, 2011

Sewer Maintenance Log

Date	Maintenance Performed	Initials	
10-4-11	WORK IS CONTENSING ON The	D.R.	541
	Santtark sewer ingin on No.		
	SIXTH ST. from about The millio of		
	Block at This date 50545 ON		
-			}
	TOWARDS STATE ST. replacing 220 feet 07 8" Sewer Main		
	Pipe - by Robinson CONST. CO		
	Finished This week of 10-10-11		1
			}
10-5-11	Dug up Sanitary Sewer Cave-in	DR.	37/
	SPOT IN 100 block of W.		
	TOM BROWN ST. QUD SEP/CCED	:	
	aprox. 2 ft. of 6" Line		
	(house sewer Line)		i destre
:	(by city)		red very
10000			
12-8-11	Dug up Sanitaily Sewer Line ON S. Third - (between Plant Rd.	DR.	241
	ON S. Third - Chetween Plant Rd.	8	
Trajechonicani kiratornikistyrinikunityyranistise	and Naomi) That feels Rolwing		
	- Motley's New Scale house and	<u></u>	
	repaired The Riser (installed a		income.
THE STREET STATE OF THE PROPERTY OF THE PROPER	NOW ONE That was ran over		1
CALL CONTRACTOR CONTRA	and broken - (by city)	I ALDERSON STREET, SALES AND	· ·
15 6 17		7.	541
The street of th	Dug up Sanitary Sewer Line	DR	13 7 J
	at 610 S. Ninth ST replaces	resease unosacion	2
SZ	APIOX, 6 feet of 4" Line		
H Han - reperture and and amough account H	and installed a cleanour Riser	enter companso a 1746 .	4
<u></u>	ON LINE - (Dave Manker Home)	· ·	-
	(by city)	· · · · · ·	1
<u></u>			·   ·
<u> </u>		<u> </u>	J

Next Page 4 of 31

Sewer Line Maintenance Repair Report

Sewer Maintenance Log

Date	Maintenance Performed	Initials	
1-10-12	Dug up Sanitary Sewer Line at	D. R	54/
	202 MOTHEN ST , TRP/aced		.,
	APROX. 3 FT. OF 411 Line and		
	INSTAlleD a Cleanout Riser on Line		·
	(Note: This house belongs to Charles DAvid)		
	(by City)		*
•			
1-10-12	Dug up Savitary Sewer Line	D.R.	54
	at 406 W. BUID AVE. ann		
	replaced aprox. 3 ft. of 6"		
	Line and installed a cleanout		
	Riser ON. Line.		
	(by city)		
1-16-12	Robinson CONST. CO. STATTED Today	DR.	341
1-19-12 with	Moving in Eduipment and materials		
1-30-12 GOT.	TO The Sewer Cave-IN SPOT IN	TO THE PROPERTY OF THE PROPERT	]
2-1-12 GANTE	200 block N. Elm ST.		
2-9-12 Finished		TO DESCRIPTION OF THE PROPERTY	<u>.</u>
2-10-12 Started	This sewer care in.)(1-19-12		
	Robinson CONST. Co. Las begun To	6 una <del>dimenta un impo</del> litar-ciaco	 
State of the Control of the State of the Sta	Lay Sewel Main Pipe at The		
Antiquetaloris articularistical description of the following of the follow	Mannote at the Ett station	E ALTERNATION PROPERTY SHAPE A ST.	
	going South Towards Cleveland	The state of the s	San San San San San San San San San San
Liberatur bominter bising compresses	ST.) (2-1-12 - work is Contaring	THE COMPANY OF THE PARTY AND T	
Market Control and the Control of th	Laying 10' Sewer Main pipe	2 Contraction of the section	
	2-19-12-They finished Laying		
re- Imperiore dispersionales status	The 10" sewer Main Pipe Today	processors	
	tor a Total of 202 feet of		
	Pipe layer 2-10-12 - STaiter	<u> </u>	***
	Caying The Water Mair back		
	IN This Section That had To	<u> </u>	
(2)	be removed in order to Lay The sen	rev,	
ハイン	Next Page 1		

Sewer Line Maintenance Repair Report

OCT. 1, 2011

To 31, 3612 Sewer Maintenance Log

Date	Maintenance Performed	Initials	į.
1-19-12	Dug up Santtary Sewer Line at 903 brand Ave replaced aprox. 4 ft. of 4 "Line and	D.R.	54/
b 4	903 GRAND AUR VEPLACED APROX.	·	·
by city	4 FT. of 4 "Live and		
	INSTAllED CLEANOUT RISET ON LINE.		
1-24-12	Dag up Sanitary sever Line	D. P.	541
	at 811 Warren ST. and Cat. a Section of 4" Line into and installed a 4" Cap on		
	a section of 4" Line INTO		
	and installed a 4" Cap on		
	Line. (Note: house is being Torn		
	down (By City)	<u> </u>	
A 0			
2-9-12	Dug up Sanitary Sewer Line	D.R.	124/
	at 311-313 W. Commercial ST.		
-  - 	replaced aprox 4 fT. of 6"	<u></u>	40EW 47.
	Sewer Line and installed a 6" Cleanout Riser on Line and		
	Cleanout KISEV ON LINE and	Emmenced screens and	
NATION OF THE PROPERTY OF STREET STATE STATE OF THE STREET STATE OF THE STREET STATE OF THE STAT	INSTAlleD a b backflow		
e kart koming medi i mel i i flamberer sperer ke saturkiya kartiya medi i i flamberer sperer	Valle on Line.	THE OWNER OF THE PERSON	
to literate Copy is a salar a la de commission operator q	(By City)		
2-19-17	WORK STAFTED TODAY ON The	D.R	
	Savitary Sewer MAIN Care-	D' B	
Total english sets me transmission and interesting	IN- IN The 300 block of	PERSONAL MENT	editor ridor
Parkit for the continuence bedicing any instrumental parking.	W. CUPRESS ST. They STAFTED	**************************************	
STATE OF SOME STATE OF STATE O	at the Manhole Thats in The	The second secon	
Market Control of the	middle of the block (between	CHARLEST CONTROL CONTROL	
)	breen and Locust ON This		1
entente la magnitude dispersión di dispersión dispersión dispersión dispersión dispersión dispersió	Prosect The Laboration	априсотравно СПАС	
	262 feet of 8' Line, Laying Fire.		
Completed	Towards breen ST.		1
072-28-12	(by Robinson CONST.)	<u> </u>	1

**G** (2)

Sewer Line Maintenance Repair Report

Appendix 9.6:

oct. 1,2611

march 31,2012

Sewer Maintenance Log

Date	Maintenance Performed	Initials	
2-19:1)	The un Sometable Spines Have at	N.R	. 5
7-1-1-12	Dug up Sanitary Sewer Clare at 310. W. Commercial ST	الله الله	<u> </u>
			<u>.</u>
	and installed a cleanout Riser		•
	1 (by city)		
3-20-1	Dug up Santtary Sewer Une at 203 S. breen ST, Replace 10 feet of 4" Sewer Line		į
<del></del>	at 203 S. Green ST, Replacio		:
	16 FRET OF 4" SEWER LINE		
	and installed a cleanout		
	RISER ON LINE.		
والمراجعة والمراجعة والمراجعة والمراجعة والمراجعة والمراجعة والمراجعة والمراجعة والمراجعة والمراجعة والمراجعة	(by city)		
and the particular for the first of the firs			
		Commence of the Assessment of	
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COMPANIES AND AND AND AND AND AND AND AND AND AND			ŀ
		PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF THE	
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timberton an el deserminates d		enterente de la companya de la companya de la companya de la companya de la companya de la companya de la comp	
	THE PROPERTY OF THE PROPERTY O		
<del></del>		· · · · · · · · · · · · · · · · · · ·	ļ. ·

Next Attachment 4 Page 7 of 31

#### Sewer Line Maintenance Repair Report

### Sewer Maintenance Log

Date	Maintenance Performed	Initials	
2-24-12	Dug up Santtary Sewer Mair IN 800 block of ball ST.	DR.	54/
	IN 800 block of ball ST		·
	and replaced approx 3 fg, of		•
	8" Line - installed a 8" X 4"	r F	
	wye (by City)		
		1	
2-28-12		DR.	54/
	Savitary sewer Main cave-in		
3-5-12	- ON S. Green - STRITING		
wolk is continuing	at Manhole at w. Cypiess		
	going South. They Layer		
3-12-12 WOTK-15	aprix, 248 feet of 8" Line		
I CONTINUING ON	(by RobiNSON CONSTI)		
This section	(WOIK COMP/2TED ON 3-15-12)		
3-20-12	WOCK began Today on The	D.R.	541
	Sanitary sewer Main cave-in	a comment and the comment of the	
Andrews and the second	- ON HeleNa ST. (They STRITED		
todornajmentat Anatociatoricacionemoscovernamen	lat Firsh ST, going West	- pameraneontockhopitere	
3-26-12	ON Helena Toward S. Virginia ST.		
WOIK OF	They Layer aprox. 145 feet of	é umamanana manana-asaa	
Section	the state of the s	T SERVICE CONTRACTOR OF THE PROPERTY OF	
TANAMANA NO NO MONTHONO PROPERTIES AND AND AND AND AND AND AND AND AND AND	(by Robinson CONST.)	i electricistraturati peles all	
20:2		70	541
3-21-12	WOLK began Today on The	D.R	7 41
W-41467036767167147167167167	Santtary sewer Main Cave-in	O THE COMPANY CONTRACTOR OF THE CONTRACTOR OF TH	
	ON Helena ST. (They STRITED AT	}	
The state of the s	The Manhole at Seventh ST.	meronary (196	
-	Soin West Towards SixTh ST.	<del> </del>	
ļ	UP TO This POINT OF THIS	<u> </u>	
	aprox. 65 feet of 8 1 Line	}	
	1 uplox. by teet of 8 cine	<u> </u>	]
$(\mathcal{L})$	(by Robinson CONST.)		

Attachment 4 Page 8 of 3/

# SEMI-ANNUAL INFILTRATION & INFLOW REPORT

SOUTHEAST REGIONAL OFFICE 2155 NORTH WESTWOOD BLVD	OCTOBER 31 <sup>st</sup>
POPLAR BLUFF, MO 63901	•
PERMIT NUMBER COUNTY THIS REPORT COVERS Y	/EAR:
MO0120081 MISSISSIPPI April 1st, 20 1	through September 30th, 20 12
FACILITY NAME PHONE #: FACILITY ADDRESS	^ 1
CHARLESTON WWT LAGOON 233-5842 County	fd 215
OWNER NAME PHONE #: OWNER ADDRESSO	
City of CharLeston 573-683-3325 P.O. BOX 216	1000
9. The permittee shall develop and implement a program for maintenance and repair of the guidance is the US EPA's Guide For Evaluating Capacity, Management, Operation, And Sanitary Sewer Collection Systems (Document number EPA 305-B-05-002). The permit in April and October with the Discharge and Monitoring reports which address measur of infiltration and inflow into the collection system serving the facility.  Please submit additional pages if needed.	d Maintenance (CMOM) Programs At ittee shall submit a report semi-annually es taken to locate and eliminate sources
Monthly & Quanterly reports already sent	in,
	·
	•
	·
	·
	•
•	
· · ·	
REPORT COMPLETED BY	DATE
Denis Rapit	10-1-12
SIGNATURE OF OWNER OR DESIGNEE APPROVING REPORT	DATE
David Hanis MO 780-1808 (7-04)	10-1,-12

Appendix 9.6: Jold Sewer Line Maintenance Repair Report Turne D in To 540 on 9-26-12 Sewer Maintenance Lino Appendix 9.6:

Date	Maintenance Performed	Initials
4-2-12	WOLK IS CONTANING ON The	D. R.
	Sanitary Sewer Main Care-in	
	(replacement) in 600 block of	·
	Helena ST. Going West	
1-5-12	TOWARDS 6 It ST. They LakeD	
WARENS POP	aprox. 308 feet of 8"Line.	
•	WORK FINISHED TO day at bland	
<del></del>	HeleNa - 4-9-12	
	(by Robinson CONST.)	
4-10-12	Work STACTED TOday on The	D.R.
	Sanstary Sewer Main Cave-in:	
	(Replacement) IN block of	
<del></del>	S. 6th ST. STAITING at	ļ
PIN ISHED	Naomi ST. and Boing	-
Sec TION	North Toward Helena ST. They Layer aprox 202 feet of & time	
IN MON. 4-161	Layer aprox. 202 teet of 812ine	
ing ( The late of the first of	(by Robinson CONST.)	
1010		
7-17-12	WOIK STAITED TOday ON The	D.R.
	Jan, Tary Sewel Main Cave-11.	***************************************
<u>دوسون دوست دیمان دیک دسته دیمان می از دوست</u>	Sanitary Sewer Main cave-in. [Replacement] in 200 block of Helena ST. STARTING at	TERRITORISM SAMESTANISM AND RESIDENCE
haftið ver tilst við stjóðstjótsteini flestalstjótsteini	manhole Near 7th ST. and	PERSONAL PROPERTY OF THE PERSON OF THE PERSO
	GOING EAST TOWAIDS 8th ST.	
PERSONAL PROPERTY AND ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE P	They lave A APIOX. 321 feet of	Transmitted and the Party of the State of th
	10 LINE WOLK FINISHED	THE RESERVE THE PERSON NAMED IN
	Toda V 4 -25 - 12 ON This	
. Projektore wytherapores court	Section	emer projective to the
•	164 ROBINSON CONSTI	· ·
	,	
<del></del>		

#### Sewer Line Maintenance Repair Report

Sewer Maintenance Log

Date	Maintedance Performed	Initials	
		r.	
4-26-12	WOLK STAFTED TOLAY ON The	D.R.	541
	WOCK STAFTED TOLAY ON The Sanitary Sewer Main - Cave-in		
	(Replacement) 800 block of		
	Helena ST. STarting at		
	manhole at 8th ST. and		
•	going east Towards 9th ST,		
	going east Towards 9th ST, They laked aprox. 361 feet of	<u> </u>	
	10" LINE. WOLK Was FINISHED	1	
	TO day -50-2-12		
	(by Robinson Const.)		
W 21/21/2		3 O	. رسید
7-27-12	Dag up Sanitart Sewer at	D. YC-	741
	aprox. 3 feet of 6" Line and	,	
	aprox. 4 feer of 4" Line		
	COUT IN, STIERT		
The second state of the se	(by City)		
15-3-12	WOCK STATTED TODAY ON The	D-R.	54/
	Sanitally Sewer Main- Caverin	The state of the s	
	Replacement) in 100 Block of		diameter (
Col depth from Call and Call Agreement and Call	Danforth ST. STAITING OF		in the state of th
5-17-17	Mainst. and going east	**************************************	
MOIN	TOWARDS FIRST, ST. They	anning and a second and a second and a second and a second and a second and a second and a second and a second	
CO NY UNING	Layed aprox. 387 Feet of 8"	Chicagologia, Chicago	
on Daskour	Live - (Work Finished Today		-
This is a strength of the stre	3-13-12	energenestic .	
<u> </u>	(by Robinson CONST.)		-
		<u>                                     </u>	
			1
1	L	<u> </u>	7 .

### Sewer Line Maintenance Repair Report

Sewer Maintenance Log

Date	Maintenance Performed	Initials	
5-29-12	WOLK STATTED TOday ON The	DR	541
	Savitary sower main Cave-in		
	((eplacement) IN 100 block of		
	W. TOM BROWN ST STAFFING		
	at main ST: and going WEST		
	Towards The Manhole at		
	145 feet of 10'Line		
2 // 2	145 feet of 10'Line		
6-7-12 Completed	WOIK ON THIS SECTION Was		
Contract	completed to Lay - 6-7-12 and They		
	Moved Equipment to W. Marshall & Green		
	(by Robinson CONST.)		
10-11-12	WOCK STAITED TOLAY ON The	TO R.	!   541
	Saritary Sewel Main CAUE-IN		
	(replacment) of W. Marshall ST.	[ <del>-   -   -   -   -   -   -   -   -   - </del>	# D.C.
	and S. Green ST. laying		;
	8 1 PIPE across All 4 Lanes		
	of W. Marshall. They Laved		
	aprox. 73 feet of pipe.		
	WOCKED FINISHED ON This SECTION	ORDER DESCRIPTION AND ADDRESS OF THE PARTY O	·
TO CALL STORMS (STANGE) AND AND AND AND AND AND AND AND AND AND	10-2/-12		
Total enduated and and analysis to the state of the state	(by Robinson CONST.)	PODLETTO DO PROPERTO DE LA DIVERSE POR	er er er er er er er er er er er er er e
17 - 10 12	7 8 160 161 6 16 16 16 16 16 16 16 16 16 16 16		ل ا
6-18-17		D.R.	541
WANTED TO THE THE PARTY OF	Aprox 2 feet of 4" sch. 40 Pipe	CIAMORE EL TIPIOTO DE LA TIPIO	
296.	Aprox 2 teet of 4 sch. 40 Pipe		1
The second second	The state of the s	ena emperior 1944	
<del></del>			1
	And the second s	.,,	1
		·	

#### Sewer Line Maintenance Repair Report

#### Sewer Maintenance Log

Date	Maintenance Performed	Initials	
6-21-12	STATTED MOVING CLAIPMONT TE	D.R.	54,
	The Sanitary Sewer (seplacement		
1	JOB ON STATE ST. STATTING		
122	at 6th ST. and going		
	West Towalds SI ST.		
	ACTUAL WOLK ON THIS PAIT		
	Started ON 6-25-12. They		
	Laved a DIOX. 397 FEET OF 811 LINE (WOIKED FINISHED TODAY 7-1612) (BY ROBINSON CONST.)		مارين نوسه محارين نوسه
	(by Robinson CONST.)		
7-16-17	STACTED MOVING EQUIPMENT TO SIN and Helena ST. TO The	D. 15.	341
and letera	SIN and HelenasT. TO The		<u> </u>
· <u>}</u>	ISANITATY SEWEL (JEP/alliment) 1000		t and a second
7-17-12	WOLKED acThally STATTED TOday		
	They Layer aprox. 207 feet Total		
	of 8" Line.		1
	(WOIK FINISHED TOLAY - 7-19-12)		
100000000	(by Robinson CONST.)	DOMESTIC POPULATION OF THE PROPERTY OF THE PRO	
0.22212	IN CHESTER THE LOLD	541	- C.
1.4219	WOIR STAITED TOLON ON	09/	$\mathcal{L} \cup \mathcal{L}$
	The Sewer Cave-in (Replacement)		
Tarkyankulyasa (16.2 142 Tilling I hagina okizkizi zamina)	TOHNSON ST. They Laven	erromationshipsings and a second sec	Transport of the Control of the Cont
	any 1 39 feet of 8" I've		3
CORPORATE FOR THE RESIDENCE OF THE PROPERTY OF	Flom manhole to the east aND 30 feet To Then	rovih	
WALLAND BELLEVILLE OF	Completed also by Robinson CONST.)	-	
	Today 7-23-12		]
Property of the district control of	inches and the second s	marriage (190	
			]
	The second control of the second control of		

#### Sewer Line Maintenance Repair Report

#### Sewer Maintenance Log

Date	Maintenance Performed	Initials	
7-74-12	work starten today on The	D.R.	<u <="" td=""></u>
1 0 10	Sewer care-in (Replacement) Job	<u> </u>	311
	at Cleveland and Locust, They		
	Layer aplox. 35 feet of 811	,	
·	Live from the manhole going		
	east.		
		·	
	( by Robinson CONST.)		
8-22-12	Du un Constant Course live	D.R	K9.
0 0010	Dug up SaniTary Sewer Line at 409 Naomi st. and replaced	D: 1	
	aprox. 4 feet of 4" Line		
	and installed at cleanout		
	RISER ON. CINE.		
	(by City)		
7		6 0	<u>-</u> ,
8-30-12	Dag up Savitary sewer Line	D.R	37,
·	at 305 E. ByIA Ave. and		
TONY PROPERTY TO THE PROPERTY CONTRACTOR OF THE PROPERTY OF TH	replaces aprox b feet of 4" Line and installed a 4"		
Age Andrews Comp. Sand Action Life Assessment Company of Company	Cleanout Riser ON LINE.	genganigus ayacatung rept 3.5 Aprilus) haq	F
	(LV CiTG)		
TANA MANA AND AND TOTAL STATE			ا رسا
9-1-12	Dag up Sanitaty sewer Line	D.R.	541
COPPATALYTERS TO THE RESIDENCE OF THE PROPERTY	at 1303 E. Commercial - (JEFF RENAYA)	namenament (Clarke)	
	house) and replaced aprox. 10 feet	CALCULATION OF THE PARTY OF THE	
	by city		
the tribbers of dispersions assess		Employment (1945)	:

<u> </u>	
£	(\$)

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM – WATER POLLUTION BRANCH
SEMI-ANNUAL INFILTRATION & INFLOW REPORT

MAIL TO: MISSOURI DEPARTMENT OF NAT	SEMI-ANNUAL REPORT DUE:				
SOUTHEAST REGIONAL OFFICE	, Tu				
2155 NORTH WESTWOOD BLVD			APRIL 30 <sup>TH</sup>		
POPLAR BLUFF, MO 63901	<u>,</u>				
PERMIT NUMBER	COUNTY	THIS REPORT COVERS YEAR:			
MO0120081	MISSISSIRPI	October 1 <sup>st</sup> , 20 <u>/2</u> throu	igh March 31 <sup>st</sup> , 20 <u>13</u>		
FACILITY NAME	PHONE #: 325	FACILITY ADDRESS	,		
CHARLESTON WWT LAGOON	233-5842	County Pd. 2	5		
OWNER NAME	PHONE #:	OWNER ADDRESS			
		P.O. BOX 216	- 004		
City of CharlesTON	683-3325	CharleSTON M.	5. 63834		
9 The permittee shall develop and implement a program for maintenance and renair of the collection system. The recommended					

9. The permittee shall develop and implement a program for maintenance and repair of the collection system. The recommended guidance is the US EPA's Guide For Evaluating Capacity, Management, Operation, And Maintenance (CMOM) Programs At Sanitary Sewer Collection Systems (Document number EPA 305-B-05-002). The permittee shall submit a report semi-annually in <u>April and October</u> with the Discharge and Monitoring reports which address measures taken to locate and eliminate sources of infiltration and inflow into the collection system serving the facility.

Please submit additional pages if needed.

Monthly + Quarterly reports already sentin

We have received a report from Vion-Seven where we smoke thated 34,353 of paintary Seven and found Do defects, these were all cleanant top broken off and we will repair ourselves. The anobe test was performed in gons 7 through 19 in our Citys. We also had 83 montholes inspected in zone 7-19 and found that 19 menholes had some infiltration. We plan to live these menholes and smoke test zone 5+ 6 this field year.

REPORT COMPLETED BY	DATE
David Hani	4-11-13
SIGNATURE OF OWNER OR DESIGNEE APPROVING REPORT	DATE
Day Jans	4-11-13

MO 780-1308 (7-04)

Sewer Maintenance Log

Date	Maintenance Performed	Initials	i
2-11-13	Dug up Sanitary Sewer Line	7).R.	541
	AND SEPLACED APPOX-10 feet		,
	of 4" Line and installed a		•
	Cleanout Rised at 902 STATE ST		i
	(by c. 74)		-
2-14-13	Dug up savitate sewel Line	D. K.	59/
	Dug up Sanitary Sewel Line and replaced aprox. 3 feet of 4" Line and installed a 4"		
	Clearout Riser at 2/2 South ST.	- Comment	
	(by CITV)		
2-27-13	Dug ap Sanitary Sewer Line	D.R.	541
	OF 4 " Line and installed a		
	of 4" line and installed a		
I control of the second of the	4' cleanout Riser as 612 PAUL ST.	The second secon	
	(by City)		
1-18-13	Dug UP Savitary Sewer Line	D.R.	541
0 0012	AUN SENTACED AND TO FEET OF	2017	
	AND replaceD aprox. 6 feet of 4 "Line and installed a	#100 management (management)	
TO THE PORT OF THE PROPERTY OF	4 "Line and installed a 4" cleanout Riser at 301 E. ADA ST.		
Alexander Comments	(by City)	**************************************	
Care to the Action of the Acti			١ . رسر
13-1-12	Dug up Sanitary sewer Line	D. R.	541
	ard replaced aprox. 3 feet of 4" Line and installed a		
THE THE STEEL STREET	Cleanout Risel at 412 N. ElM	opermones that I do	
-	(by city)		
	The state of the s		
		·	

#### Sewer Line Maintenance Repair Report

Sewer Maintenance Log

Date	Maintenance Performed	Initials	
/			
3-8-13	Dug up Savitary sewer Line and replaced aprox. 3 feet Of 4 Line and installed a	D.R.	50
	Def 4 1/we and switched a		
·	cleanout Riser at 1302 warde Rd.		
	(by city)		
3+19-13	Dug up Sanitary Sewer Line	D.K.	క
	and replaced aprox theet		
	Dug up Sanitary Sewer 2/Ne and replaced aprox. 7 feet of 411 Line, at 207 N. 65 (by city)		
······································			
AND THE PERSON OF THE PERSON O	,		
•		***************************************	
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وسعودي والمراوع والمواود والمراوع والمواود والمراوع والمواود والمراوع والمواود والمراوع والمراوع والمواود والم		Skingagerund generalist, as blister	
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P CT COLL POINT TO PERSONAL EXPERIENCE AND EXPERIENCE		same control of the same of th	317800
		CPATER THAT IS A SECTION	
Strategical de production const		Charles 194	1
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			1
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Attachment 4 Page 17 of 31

#### Sewer Line Maintenance Repair Report

Sewer Maintenance Log

Date	Maintedance Performed	Initials	
11-29-12	Dug up Saritary Sewer Line	D. R.	5
	at 107 ClayTON (DONNIE Sams)		
	and replaces aprox. S feet of		
····	4" Line and installed Double 4" Cleanout Risers on Line		
	(by City)		
11/2×/15	Dag up Sanitary Sewer Line	D. <b>R</b> 2	رسم ا
11/00/14	at 107 N. Seventh ST (Russell	D. 18.6	
**************************************	Boyders) and replaced 10 ft. of	<u></u>	
	4' Live.		
	( hy CITU)		
			t in the second
12/5/12	Dug up Sanitary Sewer Line	D. R.	5
	at 713 N. Main Rd. and		
	seplaceo aprox. 20 feet of 4"	Commence of the Control of the Control	
	LINE and INSTAlleb a Cleanout		
	KISER ON Line.	DESCRIPTION OF STREET	
11212	(by c7Ty)		T ./
1/2/13	Dug up Sanitary sewer Line	D. K	ن کے ۔ موس
THE PARTY AND ADMINISTRATION OF PERCENTION O	SeplaceD aprox. 4 feer of 4	EXPERIENCE AND PROPERTY.	7
ingridus (naci de limpo espesido do comincio es		PERSONAL PROPERTY OF THE PERSON	باداره باداره
	Risers on Line.		
ret inne horest kan men men men men men men men men men me	(by City)	namenosenikisteten/ernesistet	
		O SECRETARIO CONTRACTORIO	
1/29/13	Dag ap SaviTary Sewer Line	D.R.	153
	at 900 sherman ST. ard		
	replaced aprox. 4 feet of 4"		
	LINE and INSTAlleD a cleanous		
	Riser ON Line.		1

Attachment 4 Page 18 of 31

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MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM – WATER POLLUTION BRANCH
SEMI-ANNUAL INFILTRATION & INFLOW REPORT

MAIL TO: MISSOURI DEPARTMENT OF NATI	URAL RESOURCES			SEMI-ANNUAL REPORT DUE:
SOUTHEAST REGIONAL OFFICE 2155 NORTH WESTWOOD BLVD POPLAR BLUFF, MO 63901				OCTOBER 31 <sup>st</sup>
PERMIT NUMBER	COUNTY	THIS REPORT COVERS		
MO0120081	MISSISSIPPI	April 1st, 20 13	_ through	September 30 <sup>th</sup> , 20 <u>13</u>
FACILITY NAME	PHONE #:	FACILITY ADDRESS	•	
CHARLESTON WWT LAGOON	233-5842	County	fd.	215
OWNER NAME	PHONE #:	OWNER ADDRESSO	1.	
	573-683-3325	CharLesTO	iv M	
9. The permittee shall develop and implemed guidance is the US EPA's Guide For Eva Sanitary Sewer Collection Systems (Docin April and October with the Discharge of infiltration and inflow into the collection Please submit additional pages in	uluating Capacity, Ma ument number EPA 3 e and Monitoring repo on system serving the	nagement, Operation, An 05-B-05-002). The perrorts which address meast	nd Mainten nittee shall	ance (CMOM) Programs At submit a report semi-annually
	PMRS	about sent	in m	onthly.
also I d testing + Man				
we are going				
		•		•
				•
	•	•		
REPORT COMPLETED BY			DATE	
David Harris		•		10-2-13
SIGNATURE OF OWNER OR DESIGNEE APPROV	ING REPORT		DATE	
Dans Kani			10	0-2,-13
MO 780-1808 (7-04)				•

Appendix 9:6: 30 30 Sewer Line Maintenance Repair Report

Sewer Maintenance Log

Date	Maintenance Performed	Initials	
1.21.2			
4/15/13	Dug up Santary Sewer Line	DR	541
	and cut into and capped it		
	and cleanout repaired to the		
<u>.</u>	010 gas STATION ON OUTER Pd		
	JUST off of County Rd. 211		٠.
	(gas STATION Was TOIN LOWN)		
4/15/13	Repaired a broken sanjary	D- R	541
	Sewer Cleanout at The Las		
	Brisas Mexican Restaurant		
	ON STOCK ST.		
4/15/13	Repaired & bioken Santtary	DR	54
	Sewer cleanouts at The TasTe		
<u>.</u>	bood Chinese restaurant off		
	of E. Marshall ST.		
	·		
4/15/13	Dug up The old sewer Line	D.N.	541
	and Cat IT INTO and INSTAller	•	
	New 4" cleanout and stabled		
	out New 4" pipe at he empty		· ·
	LOT ON E. Marshall ST. just		
-	least of Flying J Truckstop (Note-a New Building is going		
	(NOTE - a New Building is going		
	To be built here Later)		
4/15/13	Repaired a bloken Sanitary	DA	54
	Sewer Cleanout at 604	}	]
	Repaired a bloken Samitary, Sewer cleanont at 604 Hillsdale ave.		]
			]
	·		

Sewer Line Maintenance Repair Report

APRIL 1,2013 COPT. 30,2013

#### Sewer Maintenance Log

Date	Maintenance Performed	Initials	
4/15/13	Repaired a broken Sanitary	DR	54
	sewer cleanout at 608		
	Hillsdale Ave.		
4/16/13	Repaired 2 broken Sanitary	DIR	50
<u></u>	Sewer cleanouts at 1508		
	E. Commercial ST.		
4/16/3	Repailed a bloken Sanitary	D.R.	5
17,01.3	Sewer Cleanant at 1410		,
	E. CYPTESS ST.		
			1
4/16/13	Repailer a broken savitary	DR.	54
	sewer cleanout at 1408		
Annia arterio i monoccio i popolo de l'estropolo de	E. CYPIESS ST.		
41/7//3	Repaired a broken Sanitary		54
	Sewer Cleanout at Boomlann		<u> </u>
Lagioner with the Completion of Completion o	on Highway 105		1
4/17/13	Repairen a broken Sanifarly	D.N	-
	Sewer Cleanout at The		- Santa
THE COLOR OF THE PARTY AND AND AND AND AND AND AND AND AND AND	rear of the a/co store	**************************************	
A Property Company of the Company of	in charleston Plaza	E PERSONAL PROPERTY SPECES	
4/23/13	Dus up The existing 6"	D.C	54
D. C. C. C. C. C. C. C. C. C. C. C. C. C.	Clay Sanitally Sewer Cine		1
From Property Assertations	at The OID WATER PLANT SITE	onermore the .	-
	off of moore ST. and Layer		
}	3 teet of b'sch. 40 pipe and	<u> </u>	4
	installed a 6" cleanout (Thisis	<u> </u>	4
	Hor a New building To be	<u> </u>	1

built later for the City

## Sewer Line Maintenance Repair Report

Sewer Maintenance Log

Date	Maintenance Performed	Initials	
4/25/13	Dag up 4" Sanitary Sewer Line	D.R.	54/
	That went to 718 No Main Rd.		
	which is NOW an empty LOT and		
	WE CUT IT INTO AND CAPPED IT		
	(TO DISCONNECT Sewer Service TO LOT)		
4/20/13	The HO HI STUTTED COME I'M		ار رسے
710911>	Dug up 4" Sanitally sewer line and replaced aprox. 3 feet of line	13.K.	3 97
	and installed a deanout Risel at		<u>.</u>
	1004 STATE ST.		
5/9/13	Dug up 4' Savitally Sewer Line and Installed a New	D-3-	54,
	Live and installed a New		
	Cleanout Riser on Line at		1
is one of the last the graphy receiver provide any or or graphy.	10 8 Shermar 27:	-	
6/6/13	Dug up The Savitary Sewer	D.R.	5y,
	Main Cave-IN-IN 300 block of	t	
	N. Hessie St We Replaced a prox	1	
Andrew Constitution Constitutio	15 feet of 8 line and Installed		
	15 feet of 8" Line and Installed a 8" x 6" Wye and Layed aprox. 4 feet of 6" Line to Connect		
LOCAT TOTAL CONTROL OF A CONTROL CONTR	Service Live back up.	THE RESIDENCE PROPERTY.	
Trianglish and reads that the state of the s	1 Service Blue Park up.	white the second second second second second second second second second second second second second second se	unifestuation of the second
6/14/13	Layer 160 feet of 6" Sanitally	DR	54
	Sewer Line from Cypress across	There are the second	
	The lot to where the New		-
the second control of the second control of	Restroom Facility is bring bailt	ineconstruction .	4
	INSTAlled 2- 6" Cleanout Risels.		-
	1 1 10 2 10 11 11 11 11 11 11 11 11 11 11 11 11	<u> </u>	-
			1
L	Company of the Compan	<u> </u>	_

## Sewer Line Maintenance Repair Report

Sewer Maintenance Log

Date	Maintedance Performed	Initials	
7/1/12	(Surpay) INSTAlleD a Wallanout	7) R	54
- Garage	(SUNDAY) INSTAllED a 4" Cleanout RESEL ON SEWEL LINE LOOKING®		(
	TOWASS PITU PSOPEITU- as The		
	Property owner already had the 61D sewer Line Dug up and was feplacing it, so I installe a Riser to benefit the city		
	61D Sewer Line Dug up and		
	was Feplacing it, so I install	0 1	
	a Risel To benefit the city		;
	property.		<b>.</b>
0/0/13	Day - 18 A STATISTIC COMMENT AND	(A) (D)	54
1/1/11/3	Dag up Senstary sener and Replaced apply 10 feet of 4" Line at 1412 E. Commercial	2.1	(3)
	11" Live at 14/2 E. Commercial		
8/14/13	Dug up Santary sever and	D.R	ÉУ
	Dug up Santary Sewer and replaced aprox. 20 feer of 4" Line at 217 N. Elm ST.		
The same property of the prope	Line of 217 N. Elm ST.	Commentered managements to the	
TON HOUSE THE THE PERSON THE MONEY CONTRACTOR			
telepolitica de participa de la Septimina de la compansión de la compansión de la compansión de la compansión d	LE	************	ļ
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CONFERENCE SPACES TO THE SPACE		THE SECRETARIES OF THE SECRETARIAN SEC.	
		Triagonations, til Mog. 34.75	
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## MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM – WATER POLLUTION BRANCH SEMI-ANNUAL INFILTRATION & INFLOW REPORT



SEMII-ANNUAL INFILIT	RATION & INFI	LOW REPORT	
MAIL TO: MISSOURI DEPARTMENT OF NAT SOUTHEAST REGIONAL OFFICE	URAL RESOURCES		SEMI-ANNUAL REPORT DUE:
2155 NORTH WESTWOOD BLVD POPLAR BLUFF, MO 63901			APRIL 30 <sup>TH</sup>
PERMIT NUMBER	COUNTY	THIS REPORT COVERS YEAR:	
MO0120081	MISSISSIRPI	October 1 <sup>st</sup> , 20_ <u>/3</u> thre	ough March 31 <sup>st</sup> , 20 <u>/4</u>
FACILITY NAME	PHONE #:	FACILITY ADDRESS	
CHARLESTON WWT LAGOON	233-5842	Courty Pd.	215
OWNER NAME	PHONE #:	OWNER ADDRESSON 216	
City of Charleston	683-3325	CharLes TOW	Mo 63834
9. The permittee shall develop and implement	ent a program for mai		
guidance is the US EPA's Guide For Eva			
Sanitary Sewer Collection Systems (Doc			
in April and October with the Discharg of infiltration and inflow into the collecti			to locate and emimate sources
Please submit additional pages i			
1. 8.			
	•		
Monthly O dn this Report p is 42, 357 to	MR's alread verial we as	by sent in .	1,2,43 which
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which It me	1 10	to be leading. U	1-
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Visu-sewer	to grout &	- seal Lange	
		for wo,	
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			·
			·
REPORT COMPLETED BY		DA	TE
David Harris	·		4-1-14
SIGNATURE OF OWNER OR DESIGNEE APPROV	ING REPORT	DA	TE
Day Hans			4-1-14
IVIO 100-1306 (1-04)			

Attachment 4 Page 24 of 31

Appendix 9.6: 3013 Sewer Line Maintenance Repair Report

Sewer Maintenance Log

Date	Maintenance Performed	Initials	Linds and Sector
10/29/13	Dug up Sanitally Sewel Line and	J B	
10/ 1/10	replaced 10 feet of 4" line and	D.10	t
	INSTAlleD a cleanout Riser on		1
	Line at 702 STATE ST.		
	·		4
11/19/13	Dug up Sanitary Sewer Line and replaced 20 feet of 4" Line and	DIR	1/
	replaced 20 feet of 4" Cine and		1
	INSTAllED a CLEANOUT RISEI ON LINE at 900 GRAND AVE.		
	Line at 900 GRAND AVE.		Halley To
			$\frac{1}{2}$
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MO 780-1808 (7-04)

# MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM – WATER POLLUTION BRANCH SEMI-ANNUAL INFILTRATION & INFLOW REPORT

MAIL TO: MISSOURI DEPARTMENT OF NATO	URAL RESOURCES			SEMI-ANNUAL REPORT D	UE:
SOUTHEAST REGIONAL OFFICE 2155 NORTH WESTWOOD BLVD		•		OCTOBER 31°	st
POPLAR BLUFF, MO 63901				OCIODERSI	
PERMIT NUMBER	COUNTY	THIS REPORT COVERS			
MO0120081	MISSISSIPPI	April 1st, 20 <u>14</u>	through	September 30 <sup>th</sup> , 20	14.
FACILITY NAME	PHONE #:	FACILITY ADDRESS	•		
CHARLESTON WWT LAGOON	233-5842	County	fed.	215	
OWNER NAME	PHONE #:	OWNER ADDRESSO P.O.Box211			
City of Charleston	573-683-3325	CharlesTo		0 62824	
9. The permittee shall develop and impleme					
guidance is the US EPA's Guide For Eva Sanitary Sewer Collection Systems (Doc					
in April and October with the Discharge					
of infiltration and inflow into the collection	•	facility.		•	
Please submit additional pages i	f needed.		•		
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REPORT COMPLETED BY		`	DATE		
$\bigcap_{i=1}^{n} (i,j)_{i=1}^{n}$	_ ••	• *	1.11	)-/-/4	
Pavid Par	1,3				
SIGNATURE OF OWNER OR DESIGNEE APPROVI	NG REPORT		DATE		
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#### CMOM or I/I Assessment Update May 1, 2014

#### **WORK TO BE DONE**

Original Plan prepared in 2010 was to inspect the following:

Year	Gravity Main Smoke Testing	Manhole Inspections	Gravity Main CCTV Inspection
2012	37,498 L.F.	94 Ea.	14,654 L.F.
2013	35,925 L.F.	86 Ea.	15,379 L.F.
2014	38,798 L.F.	95 Ea.	15,166 L.F.
2015	'40,150 L.F.	91 Ea.	15,231 L.F.

#### To Date we have inspected:

Year	Gravity Main Smoke Testing	Manhole Inspections	Gravity Main CCTV Inspection
2012	38,649 L.F.	111 Ea.	0 L.F.
2013	44,650 L.F.	105 Ea.	0 L.F.

We are contracting to inspect the following this year:

Year	Gravity Main Smoke Testing	Manhole Inspections	Gravity Main CCTV Inspection
2014	71,479 L.F.	203 Ea.	Approx 5,500 L.F.

The Gravity Main CCTV inspection quantities will be based upon the defects found in the 2012, 2013, and 2014 smoke testing results. If funds aren't available in 2014 to complete CCTV inspections, additional work may be budgeted for 2015 to finalize inspections.

#### **DEFECTS FOUND**

From the past two years inspections:

Year	Smoke Testing	Smoke Testing	Manhole Defects	Manhole Defects
	Defects Found	Defects Repaired	Found	Repaired
2012	20	17	20	4
2013	65	56 (proposed)	16	0 (proposed)

The only repairs contracted to outside contractors so far have been the 4 manholes that were grouted. Majority of defects found have been minor and repaired by City personnel.

Sewer Line Maintenance Repair Report

Appendix 9.6:

April 1, 2014

To 30, 3014

528 Data

Date	Maintenance Performed	Initials	
4-8-14	Repaired a Santtary Sewer	D, R	(54
	Cave-IN SPOT IN FONT OF 603 S. COCUST ST. IN The STIEET		
£2:14	INSTAlleD 2 - 4" Cleanout	D. R.	
3-7-1	Risers ON Sewer Line at  204 N. First ST.	. OL R.	70
	(charleston Chilopractic)		Ti di di di di di di di di di di di di di
5-7-14	Replaced apply - 1steet of 4" sewer Line and installed	D.R.	54
	a cleanout REER ON Line at 506 S. Ninth ST.		
5-13-14	Repailed broken sewer Riser TOP at Finnex & W. Marshall	D.R.	54
5-13-14	Repaired a broken sener Riser Top	D.R-	50
	at 807 Vine ST.		· · · · · · · · · · · · · · · · · · ·
	Repaired broken sewer Riser Top at 607 Lee Ave.		7
5-14-14	Repailed bloken sewer Riser Top of 410 N. Green ST.	D. R.	54
5-14-19	Repalred broken Sewer Riser Top at 215 Cleveland ST.	D. R.	54

Sewer Line Maintenance Repair Report

SODT. 30, 2014

Date	Maintenance Performed	Initials	
5-14-14	Repaired broken sewar Riser Top	D·R.	
3,1,4,2,4	at 302 N. Elm ST.	D'IC,	541
5-14-14	Repaired Dioker Sewer Riser Top	D.R	541
	at 411 N. Hessie ST.		
5-14-14		D'R	54
	at 405 W. BYED AVE.		
5-14-14	REPAIRED BIOKEN SEWER RISOT TOP at 4/3 W. BYID AVE.	DR-	50
5-14-14		DR.	<u></u>
3 ///4	Repaired bloken sewer Riser Top  at 500 Cleveland 57.	D R	
3714714	Repaired broken sewer Riser TOP	DOR:	541
	at 105 N. Hessie 57.		:
5-14-14	Repaired bloken sewer RBer 70p at 711 cleveland ST,	D.R.	541
tottomorphic interespondent commen			
THE PERSONAL WITH THE PERSONAL PROPERTY OF THE	Repaired bionen sever Riser 700 at 202 cleveland 57.	Da	26//
5-15-14	Repailed bloken sewer Riser Top	D.R	541
cate of the cate o	1 at 403 W. Ironhanks		
5-15-14	Repaired broken sewer Riser Top at 307 W. I (onbanks	D. R	541
	JUL SUI W. DUNDANCS		
			1



Appendix 9.6: Sewer Line Maintenance Repair Report

APRIL 1030, 2014 SERT.

S-15-14 Repaired 2 DIOKEN SEWER RISER D TOPS AT 217 N. LOCAST ST.  5-15-14 Repaired 2 Broken Sewer Riser & Tops At 209 N. LOCAST ST.  5-15-14 Repaired Broken Sewer Riser Z TOP At 400 W. Commercial ST.  5-15-14 Repaired Broken Sewer Riser Z TOP AT 108 N. Elm ST.  5-15-14 Repaired Broken Sewer Riser D TOP AT 108 N. Elm ST.  5-15-14 Repaired Broken Sewer Riser D TOP AT 118 N. Elm ST.  7-19-14 Saturday - Dug up Sanitary Sewer D Line and replaced aprox. 10 ft.	
at 609 S. LOCUST ST.  5-15-14 Repaired 2 DIOKEN SEWER RISER TOPS AT 217 N. LOCAST ST.  5-15-14 Repaired 2 DIOKEN SEWER RISER P.  TOPS AT 209 N. LOCAST ST.  5-15-14 Repaired DIOKEN SEWER RISER TOP AT 400 W. COMMERCIAL ST.  5-15-14 Repaired DIOKEN SEWER RISER TOP AT 108 N. ELM ST.  5-15-14 Repaired DIOKEN SEWER RISER TOP AT 118 N. ELM ST.  7-19-14 SATURGAY - Dug up Savitary Sewer D.  Line and replaced aprox. 10 ft.	R. 5
TOPS at 217 N. LOCAST ST.  5-15-14 Repaired 2 broken sewer Riser &  Tops at 209 N. Locast ST.  5-15-14 Repaired broken sewer Riser Z  Top at 400 W. Commercial ST.  5-15-14 Repaired broken sewer Riser D  Top at 108 N. Elm ST.  5-15-14 Repaired broken sewer Riser D  Top at 118 N. Elm ST.  7-19-14 Saturday - Dug up Savitary sewer D  Line and replaced aprox. 10 ft.	
5-15-14 Repaired 2 broken sewer Riser & Tops at 209 N. Locast St.  5-15-14 Repaired broken sewer Riser 7  Top at 400 W. Commercial St.  5-15-14 Repaired broken sewer Riser D  70P at 108 N. Elm St.  5-15-14 Repaired broken sewer Riser D  Top at 118 N. Elm ST.  7-19-14 Saturday - Dug up Savitary Sewer D  Line and replaced aprox. 10 ft.	5. R. 5'4
5-15-14 Repailed bloken Sewer Riser 7 TOP at 400 W. Commercial ST.  5-15-14 Repaired bloken Sewer Risor D TOP AT 108 N. ELM ST.  5-15-14 Repaired bloken Sewer Riser D TOP AT 118 N. ELM ST.  7-19-14 Saturday - Dug up Savitaly Sewer D Line and replaced aprox. 10 ft.	S.R. S.
5-15-14 Repaised broken sewer Risor D 70P at 108 N. ELM ST.  S-15-14 Repaised broken sewer Risor D TOP at 118 N. ELM ST  7-19-14 Saturday - Dug up Savitary Sewer D Line and replaced aprox. 10 ft.	S. R. 53
7-19-14 Saturday - Dug up Savitaly Sewer D Line and replaced aprox. 10 ft.	RS
Live and replaces aprox. 10 ft.	D. R 57
of 4" Line and installed a 4" cleanout Riser on Line at	.R. 54
103 N. Seventh ST.	ANGEL, SUCCE OF
IN STIERT IN FRONT OF 603 S.  KOCUST ST. ( WE had TO PAT  JOWN WELL POSNTS TO PUMP GLOUND	None of the last o
water and we layed aprox 8 ft.  of 4" Line from main up and  To carb and tied it back in  to house	

# Appendix 9.6: Reliable for the following states are also as a second se

#### Sewer Line Maintenance Repair Report

Date	Maintenance Performed	Initials
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8-25-26	1179 Dag up Santrary Sewer	DeR
.:	Manhole and main line at Corner of S. Locust ST and W. Cypiess ST. END  Seplaced 8" Line in The INTERSECTION and Feplaced The	
	and W. Cypiess ST. OND	
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-	Manhole with New one.	
· <del></del>	Manare with rew one.	
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	MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM SELF-REPORTING FOR SANITARY SEWER OVERFLOWS OR WASTEWATER T FACILITY BYPASSES	FREATMENT
Notice: Und	der the Missouri Secretary of State's Code of State Regulations 10 CSR 20-7 015(9)(F). Effluent Regula	ations

e of State Regulations 10 CSR 20-7.015(9)(E), Effluent Regulations, Standard Conditions, Bypassing, and in accordance with reporting requirements listed in your Missouri State Operating Permit, or MSOP, all permittees shall provide the following notice(s) if an unscheduled Sanitary Sewer Overflow, or SSO, or Wastewater Treatment Facility Bypass occurs: NOTIFICATION INFORMATION MO-012008 □ a.m. A p.m. 55 Ongoing Overflow or 🗌 Bypass or Contained Time (to nearest 15 minutes) Time (to nearest 15 minutes) Date discovered 4-27-11 End Date ☐ a.m. 🔽 p.m. Estimated rate of discharge in gallons per minute Estimated volume of wastewater discharged (gallons) Location of the Sanitary Sewer Overflow or Wastewater Treatment Facility Bypass (complete a separate form for each discharge location and complete all that apply) corner a. Street Location: Directions to the site from nearest highway: Location defined by GPS: Cammercia 501 Physical Address: Œ Township/Range: Circumstances Causing Sanitary Sewer Overflow or Wastewater Treatment Facility Bypass (check all that apply): 🔀 Rain Vandalism Rain or Snow Melt Power Outage Plugged Sewer ☐ Broken Sewer ☐ Equipment Failure Widespread Flooding Other (describe): See "Narrative Description" on back page to add additional details. Type of Sanitary Sewer Overflow or Wastewater Treatment Facility Bypass (check all that apply): ☐ Head Works Effluent Weir/Flume Lagoon/Basin Overflow Drying Beds CSO Outfall (Dry Weather) Digester/ Solids handling Lift Station □ Aeration/Biological Treatment Clarifier/Filter/Batch Reactor Construction SSO Manhole Other (describe): Strength of Sanitary Sewer Overflow or Wastewater Treatment Facility Bypass: ☐ Partially Treated M Diluted WATERCOURSE INFORMATION Discharge Course Runs on ground and absorbs into the soil Discharge entering losing stream or sinkhole ☐ Ditch. Name of surface water it drains to: ☐ Nearby public drinking water intake Storm sewer. Name of surface water it drains to: Pitch 13 Other, describe: Name of public drinking water intake: Distance to stream if not yet reached (feet): Distance to public drinking water intake (feet): ☐ Surface water direct discharge (Name of stream): Impacts Length of impact downstream: Nearby beach or other public area Name of beach or public area: ☐ Fish kill or other impacted species Distance to a beach or public area (feet): RESPONSE/CLEANUP Were samples taken? Yes ☐ BOD ☐ TSS ☐ E.Coli ☐ Fecal Coliform ☐ Ammonia ☐ Dissolved Oxygen ☐ None ☐ Other (describe): Type of Samples Taken: DBOD Attach copies of any analytical results. Any corrective action taken? X Yes Clean up activity: X Flushing ☐ Removing ☐ Chemical Application Damming Other (describe): See "Narrative Description" on back page to add additional details.

Attachment 5 Page 1 of 18

Clean up performed by

MO 780-0000 (mm-yy)

NARRATIVE DESCRIPTION	
Provide a narrative description to further explain why the S Bypass occurred. For example, describe what equipment fail Flooding should only be indicated as a cause if there is signific not just localized high water in the street).	led, what caused the power outage, or what plugged the sewer. ant flooding caused by high river, stream or lake water levels
Heavy rain over stoot ground water.	period of time + rising
pound wate.	
• • • •	
WET WEATHER DATA (IF APPLICABLE)	
	RATION(S) OF RAINFALL
Start date 22-11 Time (to nearest 15 minutes)	
Amount of rainfall (nearest rain gauge to 0.1 inch accuracy)  13 + webs Grain	Amount of snow melt (estimated inches melted)
Time period of rainfall: Hours Minutes 0	
Contributing soil conditions (saturated, frozen, soil type)	
ACTIONS TO CORRECT THIS OCCURRENCE AND P	
form. Also describe what actions are planned to prevent or mi	vastewater discharged from the overflow or bypass reported on this inimize future overflows or bypasses. The MSOP permit prohibits permittee fails to operate and maintain the sewage collection system to pent action.
We installed a new 10 life station + plan x	to rebuild the station.
REPORT COMPLETED BY	
Authorized representative name (Please type or print)	Public Work Director
Authorized representative signature	Date: 4-29-11
I wa down	1 0 1 1

4 8	MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM SELF-REPORTING FOR SANITARY SEWER OVERFLOWS OR WASTEWATER FACILITY BYPASSES	TREATMENT
Negation II	The state of the s	st-r
Notice: Ur	oder the Missouri Secretary of State's Code of State Regulations 10 CSR 20-7 015(9)(F). Efficient Regu	illations

5. To 9 years to Individually

Standard Londours, Spyassing, and in accordance with reporting requirements reserve overflow, or SSC, or Wassewater Treatment Pacifity Bypass occurs.  No.TIPICATION INFORMATION  PRINCIPLE TO THE PRINCIPLE OF TH	Notice: Under the Missouri Secretary of State's Code of State Regulations 10 CSR 20-7.015(9)(E), Efficient Regulations,			
Treatment Patality Bypass occurs:    NOTIFICATION   NFORMATION   PROJECT   P	Standard Conditions, Bypassing, and in accordance with reporting requirements listed in your Missouri State Operating Permit,			
NOTIFICATION INFORMATION   Penert Budges   CATE				
County   Approximate Repressiptive Reporting   Religions Number with Jabb. Code   Developer Approximate   Developer   Develo			. 94	
SANITARY SEWER OVERT-LOW OR WASTEWATER TREATMENT FACILITY BYPASS DETAILS	PERMITTER (MUNICIPALITY OR FACILITY NAME) PERMIT NUMBER  (	4-27-11	1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
SANITARY SEWER QUENT COVER WASTEWATER TREATMENT FACILITY BYPASS DETAILS     Overflow or   Bypass   Songoing or   Contained	COUNTY AUTHORIZED REPRESENTATIVE REPORTING	TELEPHONE NUMBER WITH AREA CODE		
Deter biscovered   Time to nearest 15 minutes   Deteror biscovered   Time to nearest 15 minutes   Deteror biscovered   Time to nearest 15 minutes   Deteror biscovered   Time to nearest 15 minutes   Deteror biscovered				
Strinated volume of wastewater discharged (gallons)				
Cocation of the Sanitary Sewer Overflow or Wastewater Treatment Pacility Bypass (complete a separate form for each discharge location and complete all that apply)   a. Street Location:	4-17-1 \ \( \) \( \) \( \) a.m. \( \) p.m.	4-28 - 11	<b>/:30</b> □ a.m. □ p.m.	
coation and complete all that apply)	100 -	TUST enough to K	us the top wet	
a. Street Location: Corne of Maufec d'Université b. Manhole #: c. Directions to the site from nearest highway: d. Location defined by GPS: e. Physical Address: 1. Township/Range: 2. Township/Range: 2. Circumstances Causing Sanitary Sewer Overflow or Wästeweter Treatment Facility Bypass (check all that apply): 2. Rain   Rain or Snow Melt   Vandalism   V		t Pacility Bypass (complete a sep	parate form for each discharge	
b. Marhole #: c. Directions to the site from nearest highway: d. Location defined by GFS: e. Physical Address: f. Township/Range:  Circumstances Causing Sanitary Sewer Overflow or Wästewater Treatment Facility Bypass (check all that apply):  Wain or Snow Melt   vandalism   vandalis		1 (00000000)		
c. Directions to the site from nearest highway: d. Location defined by GPS: e. Physical Address: f. Township/Range: Circumstances Causing Sanitary Sewer Overflow or Wästewater Treatment Facility Bypass (check all that apply): MRain Power Outage Power O	a. Street Location: Come of Manyers	a commercial		
d. Location defined by GPS: e. Physical Address: f. Township/Range:  Circumstances Causing Sanitary Sewer Overflow or Wästewater Treatment Facility Bypass (check all that apply):    Rain or Snow Melt				
e. Physical Address: Jobs E Communication of Troumship/Range:  Circumstances Causing Sanitary Sewer Overflow or Wästewater Treatment Facility Bypass (check all that apply):  Rain   Rain or Snow Melt   Vandalism   Vandalism   Vandalism   Power Outage   Plugged Sewer   Roording   Other (describe):  See "Narrative Description" on back page to add additional details.  Type of Sanitary Sewer Overflow or Wastewater Treatment Facility Bypass (check all that apply):  Pipe Break   Read Works   Effluent Weir/Flurne   Read Works	1	•		
Circumstances Causing Sanitary Sewer Overflow or Wastewater Treatment Facility Bypass (check all that apply):	e. Physical Address: 365 E Commu	evers?		
Rain   Rain   Rain or Snow Melt   Vandalism   Power Outage   Plugged Sewer   Broken Sewer   Equipment Failure   Widespread Flooding   Other (describe):   See *Narrative* Description* on back page to add additional details.   Other (describe):   See *Narrative* Description* on back page to add additional details.   Plugged Sewer   Other (describe):   See *Narrative* Description* on back page to add additional details.   Plugged Sewer   Other (describe):   See *Narrative* Description* on back page to add additional details.   Plugged Sewer   Other (describe):   See *Narrative* Description* on back page to add additional details.   Plugged Sewer   Other (describe):   See *Narrative* Description* on back page to add additional details.   Plugged Sewer   Other (describe):   See *Narrative* Description* on back page to add additional details.   Plugged Sewer   Distence to stream if not yet reached (feet):   See *Narrative* Description* on back page to add additional details.   Plugged Sewer   Distence to stream if not yet reached (feet):   See *Narrative* Description* on back page to add additional details.   Plugged Sewer   Plugged Sew		Freatment Facility Bypass (check	all that apply):	
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See "Narrative Description" on back page to add additional details.  Type of Sanitary Sewer Overflow or Wastewater Treatment Facility Bypass (check all that apply):    Pipe Break				
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Pipe Break	See "Narrative Description" on back page to add additional details.	. Prince (check all that apply):	<del></del>	
Lagoon/Basin Overflow   Drying Beds   CSO Outfall (Dry Weather)   Digester/ Solids handling   Lift Station   Aeration/Biological Treatment   Construction SSO   Other (describe):			ant Weir/Flume	
Digester/ Solids handling				
Strength of Sanitary Sewer Overflow or Wastewater Treatment Facility Bypass:				
Strength of Sanitary Sewer Overflow or Wastewater Treatment Facility Bypass:				
Runs on ground and absorbs into the soil   Discharge entering losing stream or sinkhole   Ditch. Name of surface water it drains to:   Other, describe:   Name of public drinking water intake:   Distance to stream if not yet reached (feet):   ft.   Distance to stream if not yet reached (feet):   ft.   Distance to stream if not yet reached (feet):   ft.   Distance to public drinking water intake:   Distance to public drinking water intake:   Distance to public drinking water intake:   Distance to public drinking water intake (feet):   ft.   Impacts     Nearby beach or other public area   Name of beach or public area   Distance to a beach or public area   Distance to a beach or public area (feet):   ft.   RESPONSE/CLEANUP   Were samples taken?   Yes   Yes   No   Other (describe):   Attach copies of any analytical results.   Any corrective action taken?   Yes   No   No   Clean up activity:   Flushing   Removing   Chemical Application   Damming   Other (describe):   See "Narrative Description" on back page to add additional details.   Clean up performed by	✓ Olher (describe):			
Runs on ground and absorbs into the soil   Discharge entering losing stream or sinkhole   Ditch. Name of surface water it drains to:   Nearby public drinking water intake   Other, describe:   Name of public drinking water intake:   Distance to stream if not yet reached (feet):   ft.   Name of public drinking water intake:   Distance to public drinking water intake:   Distance to public drinking water intake:   Distance to public drinking water intake:   Distance to public drinking water intake:   Distance to public drinking water intake:   Distance to public drinking water intake:   Distance to public drinking water intake:   Distance to public drinking water intake:   Distance to public drinking water intake:   Distance to public drinking water intake:   Distance to public drinking water intake:   Distance to public area   Distance to public area   Name of beach or public area:   Distance to a beach or public area   Distance to a beach or public area   Distance to a beach or public area   Distance   Dista		cility Bypass: LIRaw LI Part	ially treated [X Diluted	
Runs on ground and absorbs into the soil   Discharge entering losing stream or sinkhole   Ditch. Name of surface water it drains to:   Other, describe:   Nearby public drinking water intake   Other, describe:   Name of public drinking water intake   Other, describe:   Name of public drinking water intake:   Distance to stream if not yet reached (feet):   ft.   Distance to public drinking water intake:   Distance to public drinking water intake (feet):   ft.   Impacts     Nearby beach or other public area   Name of beach or public area   Name of beach or public area (feet):   ft.   RESPONSE/CLEANUP   Were samples taken?   Yes   Yes   Yes   Distance to a beach or public area (feet):   ft.   Response   Dissolved Oxygen   None   Other (describe):   Attach copies of any analytical results.   Any corrective action taken?   Yes   No   Clean up activity:   Flushing   Removing   Chemical Application   Damming   Other (describe):   See "Namative Description" on back page to add additional details.   Clean up performed by		no Course		
□ Ditch. Name of surface water it drains to: □ Storm sewer. Name of surface water it drains to: □ Distance to stream if not yet reached (feet): □ Surface water direct discharge (Name of stream): □ Surface water direct discharge (Name of stream): □ Distance to public drinking water intake: □ Distance to public drinking water int			stranm or sinkholo	
Storm sewer. Name of surface water it drains to: Itch   Other, describe:   Name of public drinking water intake:   Distance to stream if not yet reached (feet):   ft.   Name of public drinking water intake:   Distance to public drinking water intake (feet):   ft.   Impacts   Impacts   Nearby beach or other public area   Name of beach or public area:   Distance to a beach or public area (feet):   ft.   RESPONSE/CLEANUP   Were samples taken?   Yes   No   None   Other (describe):   Attach copies of any analytical results.   Any corrective action taken?   Yes   No   No   Clean up activity:   Flushing   Removing   Chemical Application   Damming   Other (describe):   See "Namative Description" on back page to add additional details.   Clean up performed by	Ditable blows of surface trade to design to	_		
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□ Surface water direct discharge (Name of stream):    Impacts	Distance to stream if not yet reached (feet):			
Impacts     Nearby beach or other public area   Name of beach or public area   Name of beach or public area   Name of beach or public area   Distance to a beach or public area   Distance to a beach or public area (feet): ft.   RESPONSE/CLEANUP   Were samples taken?   Yes   No   No   No   No   No   No   No   N				
Fish kill or other impacted species   Name of beach or public area:   Distance to a beach or public area (feet): ft.		<del></del>		
Fish kill or other impacted species   Name of beach or public area:   Distance to a beach or public area (feet): ft.	Length of impact downstream:	☐ Nearby beach or other publ	ic area	
RESPONSE/CLEANUP  Were samples taken?  Yes No  Type of Samples Taken:  BOD  SE.Coli  Fecal Coliform  Ammonia  Ammonia  Secondary analytical results.  Attach copies of any analytical results.  Any corrective action taken?  Yes  No  Clean up activity:  Flushing  Removing  Chemical Application Damming Other (describe):  See "Narrative Description" on back page to add additional details.  Clean up performed by				
Were samples taken? Yes No  Type of Samples Taken: BOD TSS E.Coli Fecal Coliform Ammonia Dissolved Oxygen None Other (describe):  Attach copies of any analytical results.  Any corrective action taken? Yes No Clean up activity: Flushing Removing Chemical Application Damming Other (describe):  See "Narrative Description" on back page to add additional details.  Clean up performed by		Distance to a beach or public area (feet): ft.		
Type of Samples Taken: BOD TSS E.Coli Fecal Coliform Ammonia Dissolved Oxygen None Other (describe):  Attach copies of any analytical results.  Any corrective action taken? Yes No Clean up activity: Flushing Removing Chemical Application Damming Other (describe):  See "Narrative Description" on back page to add additional details.  Clean up performed by				
☐ Dissolved Oxygen ☐ None ☐ Other (describe):  Attach copies of any analytical results.  Any corrective action taken? ☐ Yes ☐ No Clean up activity: ☐ Flushing ☐ Removing ☐ Chemical Application ☐ Damming ☐ Other (describe): See "Narrative Description" on back page to add additional details.  Clean up performed by	Were samples taken? Yes You			
Any corrective action taken? Yes No Clean up activity: Flushing Removing Chemical Application Damming Other (describe): See "Narrative Description" on back page to add additional details. Clean up performed by	Type of Şampleş Taken: BOD TSS E.Coli Fecal Coliform Ammonia Dissolved Oxygen None Other (describe):			
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Clean up performed by				
MO 780-0000 (mm-yy) Page	Clean up performed by			
	MO 780-0000 (mm-yy)		Pane	

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NARRATIVE DESCRIPTION	A fadhi singalais why the Con	itom Course O	
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WET WEATHER DATA (IF APP		TION(S) OF BAINEALL	
Start date	Time (to nearest 15 minutes)	TION(S) OF RAINFALL  End date	Time (to nearest 15 minutes)
22-1	a.m. p.m.	4-27-11	a.m. p.m.
Amount of rainfall (nearest rain		Amount of snow melt (estimated	
13 (	incle of Nam		
Time period of rainfall: He	ours Minutes	}	
0 3 3 4 4 7 7	S-15 (6	<del></del>	
Contributing soil conditions (sati	urated, frozen, son type)	,	
ACTIONS TO CORRECT TH	HIS OCCURRENCE AND PRE	VENT FUTURE OVERFLOWS	OR BYPASSES
	en to minimize the volume of wast		
	is are planned to prevent or minim		
bypasses, unless certain specifi	ied conditions are met. If the perm	nittee fails to operate and maintain	
prevent overflows and bypasses	s, they are subject to enforcement	action,	
$\tau_{I}$	_ ,	,	1 0 1 1
1 Lose	3.000.10	A The Dans	1.4ASTA
102	memors run	16 cm sevine	ug allan
(at <+	3 menhols run we installed be	•	V
<i>6</i> 4 5 ( .	we matalled be	osci Dump	
		00   1 .	
	•		
REPORT COMPLETED BY			
Authorized representative name	(Please type or print)	Title	
		10.11. Cu h	/): <sub>-4</sub>
David Has	[13	Public Works	Mecto
Authorized representative signa	iture	Date-	
		// A /2 1.	
1) and time		4-29-11	
1000005	<del></del>	1 /	Page

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MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM

SELF-REPORTING FOR SANITARY SEWER OVERFLOWS OR WASTEWATER TREATMENT FACILITY BYPASSES

Notice: Under the Missouri Secretary of State's Code of State Regulations 10 CSR 20-7.015(9)(E), Effluent Regulations,				
Standard Conditions, Bypassing, and in accordance with reporting requirements listed in your Missouri State Operating Permit, or MSOP, all permittees shall provide the following notice(s) if an unscheduled Sanitary Sewer Overflow, or SSO, or Wastewater				
Treatment Facility Bypass occurs:				
NOTIFICATION INFORMATION				
Charleston 100.0120081	DATE 4-27-11 TIME 4:30 □ a.m. □ p.m.			
COUNTY AUTHORIZED REPRESENTATIVE REPORTING	ELEPHONE NUMBER WITH AREA CODE DNR OFFICE AND PERSON CONTACTED			
SANITARY SEWER OVERFLOW OR WASTEWATER TREATME	573-233-5842 John Chromoto			
Ø)Overflow or ☐ Bypass Ø Ongo				
Date discovered Time (to nearest 15 minutes)	End Date ( Time (to nearest 15 minutes)			
4-27-11 8:30 Xa.m. □ p.m.	4-28-11 1:30 □a.m. ⊠p.m.			
Estimated volume of wastewater discharged (gallons)	Estimated rate of discharge in gallons per minute			
Location of the Sanitary Sewer Overflow or Wastewater Treatment location and complete all that apply)	Facility Bypass (complete #separate form for each discharge			
a. Street Location:	•			
b. Manhole #:				
c. Directions to the site from nearest highway: d. Location defined by GPS:	1 (			
e. Physical Address: 201 Hun	te ST.			
1. Township/Range:				
Circumstances Causing Sanitary Sewer Overflow or Wastewater T  ☐ Rain ☐ Rain or Snow Mel				
Day Rain   Rain of Show iver	t Vandalişm ☐ Broken Sewer			
☐ Equipment Failure ☐ Widespread Floor	ding Other (describe):			
See "Narrative Description" on back page to add additional details.				
Type of Sanitary Sewer Overflow or Wastewater Treatment Facility Pipe Break Head Works	/ Bypass (check all that apply): ☐ Effluent Weir/Flume			
☐ Lagoon/Basin Overflow ☐ Drying Beds	☐ CSO Outfall (Dry Weather)			
☐ Digester/ Solids handling ☐ Lift Station	Aeration/Biological Treatment			
Manhole Clarifier/Filter/Bate	ch Reactor			
Strength of Sanitary Sewer Overflow or Wastewater Treatment Fac				
WATERCOURSE INFORMATION CONTROL OF THE PROPERTY OF THE PROPERT				
Discharge Course				
Runs on ground and absorbs into the soil	Discharge entering losing stream or sinkhole			
Ditch. Name of surface water it drains to:  Storm sewer. Name of surface water it drains to Date 13	☐ Nearby public drinking water intake ☐ Other, describe:			
Distance to stream if not yet reached (feet): ft.	Name of public drinking water intake:			
Surface water direct discharge (Name of stream):	Distance to public drinking water intake (feet): ft.			
	acts			
Length of impact downstream:	Nearby beach or other public area			
☐ Fish kill or other impacted species	Name of beach or public area:			
RESPONSE/CLEANUP	Distance to a beach or public area (feet): ft.			
Were samples taken? ☐ Yes ☑ No				
Type of Samples Taken:   BOD TSS E.Coli Fecal Coliform Ammonia  Dissolved Oxygen None Other (describe):				
Attach copies of any analytical results.				
Any corrective action taken? ▼ Yes No				
Clean up activity: X Flushing Removing Chemical				
See "Narrative Description" on back page to add additional details.				
Clean up performed by				
MO 780-0000 (mm-yy)	Page			
The state of the				
Altachicont Statement Stat	Attachment 5 Page 5 of 18			

Attachment 5 Page 5 of 18

NARRATIVE DESCRIPTION				
Provide a narrative description to further explain Bypass occurred. For example, describe what e Flooding should only be indicated as a cause if the (not just localized high water in the street).	quipment failed, who	at caused the power ou oding caused by high n	utage, or what plugge ver, stream or lake wa	d the sewer. ater levels
This was the last	manhoe o	on alwar i	main do	tgoes
This was the last to bot ST life	's Sotion			
	<del>-</del> •			
		- v		
WET WEATHER DATA (IF APPLICABLE)				
	(S) AND DURATIO	N(S) OF RAINFALL	<del></del>	
Start date 4-11 Time (to neares	t 15 minutes) E	nd date 27-11		arest 15 mlnutes) ] a.m. ☐ p.m.
Amount of rainfall (nearest rain gauge to 0.1 inch	•	mount of snow melt (es	stimated inches melte	d)
Time period of rainfall: Hours Minute	1			
Contributing soil conditions (saturated) frozen, soil	type)			
ACTIONS TO CORRECT THIS OCCURREN	ICE AND PREVE	NT FUTURE OVER	FLOWS OR BYPA	SSES
Describe what actions were taken to minimize the form. Also describe what actions are planned to phypasses, unless certain specified conditions are prevent overflows and bypasses, they are subjective.	prevent or minimize met. If the permitte	future overflows or byp e fails to operate and n	passes. The MSOP p	ermit prohibits
REPORT COMPLETED BY	<del></del>			
Authorized representative name (Please type or p	orint) T	Pullic (V)	ork Direc	to
Authorized representative signature	E	Public Wa 1-29-11		
MO 780-0000 (mm-yy)			· <del></del>	Page 2

Attachment 5 Page 6 of 18

MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM SELF-REPORTING FOR SANITARY SEWER OVERFLOWS OR WASTEWATER TREATM FACILITY BYPASSES			
Notice: Under the Missouri Secretary of State's Code of State Re Standard Conditions, Bypassing, and in accordance with reporting or MSOP, all permittees shall provide the following notice(s) if an intreatment Facility Bypass occurs:	g requirements listed in your Miss	ouri State Operatir	ng Permit,
NOTIFICATION INFORMATION			
The T- 1/10/81	DATE 52-11	9.00 J	a.m. 🗆 p.m.
COUNTY AUTHORIZED REPRESENTATIVE REPORTING	TELEPHONE NUMBER WITH AREA CODE 573 - 273 - 5842	PHE OFFICE AND PER	SON CONTACTED
SANITARY SEWER OVERFLOW OR WASTEWATER TREATME		S OM THE	ous
Overflow or Bypass Ongo			· <del>················</del>
Date discovered Time (to nearest 15 minutes)	End Date 3 - 11	Time (to neares	st.15 minutes) a.m. 🗶 p.m
Estimated volume of wastewater discharged (gallons)	Estimated rate of discharge in		1 9 mir 1/87 hm
1000	]		<del></del>
Location of the Sanitary Sewer Overflow or Wastewater Treatmen location and complete all that apply)	it Facility Bypass (complete a sep	arate form for eac	n discharge
a. Street Location:			
<ul><li>b. Manhole #:</li><li>c. Directions to the site from nearest highway:</li></ul>		-	
d. Location defined by GPS:	111.		
d. Location defined by GPS: e. Physical Address: f. Townshin/Range:			
f. Township/Range: Circumstances Causing Sanitary Sewer Overflow or Wastewater Treatment Facility Bypass (check all that apply):			
Rain Rain Rain or Snow Mel			•
Plugged Sewer		en Sewer	ı
Equipment Failure  See "Narrative Description" on back page to add additional details.		r (describe):	•
Type of Sanitary Sewer Overflow or Wastewater Treatment Facility		······································	
☐ Pipe Break ☐ Head Works	☐ Efflue	ent Weir/Flume	
Lagoon/Basin Overflow Drying Beds Digester/ Solids handling Lift Station		Outfall (Dry Weath ion/Biological Treath	
Manhole Clarifier/Filter/Batch Reactor Construction SSO			 
Olher (describe):			
Strength of Sanitary Sewer Overflow or Wastewater Treatment Facility Bypass: Raw Partially Treated Diluter WATERCOURSE INFORMATION			Diluted
Discharge Course			1
Runs on ground and absorbs into the soil	Discharge entering losing s	tream or sinkhole	1
Ditch Name of surface water it drains to:	Nearby public drinking water		
Storm sewer. Name of surface water it drains to:			
Distance to stream if not yet reached (feet):	Name of public drinking water		
Surface water direct discharge (Name of stream): Distance to public drinking water intake (feet): Impacts			<u>  ft.                                   </u>
Length of impact downstream:	Nearby beach or other publi	c area	
Fish kill or other impacted species	Name of beach or public area:	o area	
Distance to a beach or public area (feet): ft			
RESPONSE/CLEANUP			
Were samples taken? Yes You			
	I Coliform		
Attach copies of any analytical results.			
Any corrective action taken?  Yes No			
Clean up activity: A Flushing Removing Chemical		Other (describe	)=
See "Narrative Description" on back page to add additional details.			

Clean up performed by

String is made in Freedomic.

MO 780-0000 (mm-yy)

Attachment 5 Page 7 of 18

NARRATIVE DESCRIPTION		
Provide a namative description to further explain why the Sanitary Sewer Overflow or Wastewater Treatment Facility  Bygess occurred. For example, describe what equipment failed, what caused the power outage, or what plugged the sewer.  Flooding should only be indicated as a cause if there is significant flooding caused by high river, stream or lake water levels		
(not just localized high water in the street).	·	
•		
	<b> </b>	
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•		
WET WEATHER DATA (IF APPLICABLE)		
DATE(S) AND DURAT	ION(S) OF RAINFALL	
Start date 4-36-11 Time (to nearest 15 minutes)	End date 7 Time (to nearest 15 minutes)	
Amount of rainfall (nearest rain gauge to 0.1 inch agreuracy)	Amount of snow melt (estimated inches merted)	
A	Amount of show merc (estimated inches merted)	
7+ metes	·	
Time period of rainfall: Hours Minutes		
Contributing soil conditions (saturated, frozen, soil type)		
Conditioning spin continuous (Solutiones, Nozeri, son type)		
ACTIONS TO CORRECT THIS OCCURRENCE AND PRE		
Describe what actions were taken to minimize the volume of waste form. Also describe what actions are planned to prevent or minimi		
bypasses, unless certain specified conditions are met. If the perm		
prevent overflows and bypasses, they are subject to enforcement		
	·	
	{	
_		
	}	
• •		
REPORT COMPLETED BY Authorized representative name (Please type or print)	Title /	
Pavid Harris	Public Work Director  Date  5-6-11	
Authorized representative signature	Date	
Day Lans	5-6-11	
MO 780-0000 (mm-yy)	Page 2	

Attachment 5 Page 8 of /8

MISSOURI DEPARTMENT OF NATURAL RESOURCE WATER PROTECTION PROGRAM SELF-REPORTING FOR SANITARY SEWE FACILITY BYPASSES		TEWATER T	REATMENT
Notice: Under the Missouri Secretary of State's Code of State Re Standard Conditions, Bypassing, and in accordance with reporting or MSOP, all permittees shall provide the following notice(s) if an Treatment Facility Bypass occurs:	g requirements listed in your Misso	ouri State Opera	ting Permit,
PERMITTE INITIALITY OR EACH ITY NAMES   PERMIT SUIVARER	DATE	TIME	
(hantenta. (h0-01)6081	5-2-1	9:00	Ø a.m. □ p.m.
Charleston (10-012608)  COUNTY AUTHORIZED REPRESENTATIVE REPORTING	TELEPHONE NUMBER WITH AREA CODE 573-231-5842	ONE OFFICE AND PE	RSON CONTACTED
	513-233-3842		monista
SANITARY SEWER OVERFLOW OR WASTEWATER TREATM	ENT FACILITY BYPASS DETAIL	\$	
	oing or Contained		
Date discovered Time (to nearest 15 minutes)	End Date 5-4-11	Time (to near	est.15 minutes)
5-2-11 7:00 Va.m. p.m.		7:00	<b>⊠</b> a.m. □ p.m.
Estimated volume of wastewater discharged (gallons)	Estimated rate of discharge in g	ialions per minut	e 
Location of the Sanitary Sewer Overflow or Wastewater Treatmer	nt Facility Bypass (complete a sens	arate form for ea	ch discharge
location and complete all that apply)	it i doing Dypass (complete a sept		discharge
a. Street Location:			
b. Manhole #:			
c. Directions to the site from nearest highway:	Q 7		
d. Location defined by GPS: 300 June	~ ST		
e. Physical Address: f. Township/Range:	·		1
Circumstances Causing Sanitary Sewer Overflow or Wastewater	Freatment Facility Bynass (check	all that anniv):	
Rain Rain Rain Rain Rain or Snow Me			' '
Power Outage Plugged Sewer		n Sewer	1
☐ Equipment Failure ☐ Widespread Floo	ding 🔲 Other	(describe):	
See "Narrative Description" on back page to add additional details	·		
Type of Sanitary Sewer Overflow or Wastewater Treatment Facility	y Bypass (check all that apply):		
☐ Pipe Break ☐ Head Works		nt Weir/Flume	
Lagoon/Basin Overflow Drying Beds		Outfall (Dry Wea	
☐ Digester/ Solids handling ☐ Lift Station ☐ Clarifier/Filter/Bat		ion/Biological Tre ruction SSO	eatment
- AX Maritole		(describe):	
Strength of Sanitary Sewer Overflow or Wastewater Treatment Fa			Diluted
WATERCOURSE INFORMATION			
Discharg	ge Course		
Runs on ground and absorbs into the soil	☐ Discharge entering losing st	ream or sinkhole	
☐ Ditch. Name of surface water it drains to:	☐ Nearby public drinking wate		
Storm sewer. Name of surface water it drains to: 14	Other, describe:		
Distance to stream if not yet reached (feet): ft.	Name of public drinking water in	ntake:	
☐ Surface water direct discharge (Name of stream):	Distance to public drinking water	er intake (feet):	ft.
	pacts		
Length of impact downstream:	Nearby beach or other public	: area	
☐ Fish kill or other impacted species	Name of beach or public area:		
	Distance to a beach or public ar	ea (feet):	ft
RESPONSE/CLEANUP ,			
Were samples taken? ☐ Yes ☐ No			
, , , , , , , , , , , , , , , , , , ,			1
Type of Samples Taken: BOD TSS E.Coli Feca			
☐ Dissolved Oxygen ☐ None ☐ Othe	· (ueschue).		
Attach copies of any analytical results.			1
Any corrective action taken? ☐ Yes ☑ No		<del></del>	<del> </del>
Clean up activity: X Flushing Removing Chemical	Application Damming	Other (describ	e):
See "Narrative Description" on back page to add additional details.			
Clean up performed by		<del></del>	<del>-    </del>
MO 780-0000 (mm-yy)		•	Page 1
Aleachment Suffer Court 18	Attac	hment <u>5</u> P	age <u>9</u> of <u><b>1</b>8</u>

Provide a narrative description to further explain why the Sanitary Sewer Overflow or Wastewater Treatment Facility Bypass occurred. For example, describe what equipment failed, what caused the power outage, or what plugged the sewer. Flooding should only be indicated as a cause if there is significant flooding caused by high river, stream or lake water levels (not just localized high water in the street).			
	ŧ		
	•		
WET WEATHER DATA (IF APPLICABLE)  DATE(S) AND DURAT	ZONI/S) OF PAINIFALL		
Start date  130-11  DATE(S) AND DURAT  Time (to pearest 15 minutes)  A.m. [X] p.m.	End date	Time (to nearest 15 minutes)  7	
Amount of rainfall (nearest rain gauge to 0.1 inch accuracy)	Amount of snow melt (estimated		
Time period of rainfall: Hours Minutes		•	
Contributing soil conditions (saturated, frozen, soil type)			
ACTIONS TO CORRECT THIS OCCURRENCE AND PRE	VENT FUTURE OVERFLOWS	OR BYPASSES	
Describe what actions were taken to minimize the volume of wastewater discharged from the overflow or bypass reported on this form. Also describe what actions are planned to prevent or minimize future overflows or bypasses. The MSOP permit prohibits bypasses, unless certain specified conditions are met. If the permittee fails to operate and maintain the sewage collection system to prevent overflows and bypasses, they are subject to enforcement action.			
·			
REPORT COMPLETED BY			
Authorized representative name (Please type or print)	Paleline Work	& Director	
Authorized representative signature	Pabbie Ward Date: 5-6-11		
MO 780-0000 (mm-yy)	5-6-11	Page :	

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MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM

SELF-REPORTING FOR SANITARY SEWER OVERFLOWS OR WASTEWATER TREATMENT FACILITY BYPASSES

Notice: Under the Missouri Secretary of State's Code of State Regulations 10 CSR 20-7.015(9)(E), Effluent Regulations,			
Standard Conditions, Bypassing, and in accordance with reporting or MSOP, all permittees shall provide the following notice(s) if an u			
Treatment Facility Bypass occurs:		Oromoti, or ooo, or reastewater	
NOTIFICATION INFORMATION		9.	
CharlesTON 196-0120081	DATE 5-2-11	TIME 9.00	
MISS DOUG - BUTTON	ELEPHONE NUMBER WITH AREA CODE  573 - 233 - 5842	E DNR OFFICE AND PERSON CONTACTED  One Chomb	
SANITARY SEWER OVERFLOW OF WASTEWATER TREATME	NT FACILITY BYPASS DE	TAILS .:	
Overflow or Bypass Ongo			
Date discovered Time (to nearest 15 minutes)  7.00 ☒ a.m. ☐ p.m.	End Date (1	Time (to nearest 15 minutes)	
Estimated volume of wastewater discharged (gallons)	Estimated rate of discharge	e in gallons per minute	
Location of the Sanitary Sewer Overflow or Wastewater Treatment	Facility Bypass (complete a	separate form for each discharge	
location and complete all that apply)  a. Street Location:			
b. Manhole #:			
c. Directions to the site from nearest highway:	, and		
d. Location defined by GPS: 8 00 Ma on: S e. Physical Address:	T		
e. Physical Address: f. Township/Range:			
Circumstances Causing Sanitary Sewer Overflow or Wastewater T	reatment Facility Bypass (ch	neck all that apply):	
Rain Rain or Snow Mel		Vandalism	
Power Outage Plugged Sewer		Broken Sewer	
Equipment Failure  See "Narrative Description" on back page to add additional details.		Other (describe):	
Type of Sanitary Sewer Overflow or Wastewater Treatment Facility	Bybass (check all that appl	v):	
☐ Pipe Break ☐ Head Works		Effluent Weir/Flume	
☐ Lagoon/Basin Overflow ☐ Drying Beds		CSO Outfall (Dry Weather)	
☐ Digester/ Solids handling ☐ Lift Station		Aeration/Biological Treatment	
Manhole		Construction SSO Olher (describe):	
Strength of Sanitary Sewer Overflow or Wastewater Treatment Fac		Partially Treated Diluted	
WATERCOURSE INFORMATION			
Discharg	e Course		
Runs on ground and absorbs into the soil	Discharge entering losi		
Ditch. Name of surface water it drains to:	Nearby public drinking	water intake .	
Ditch. Name of surface water it drains to:  Storm sewer. Name of surface water it drains to:  Of the 14	Other, describe:		
Distance to stream it not yet reached (reet).	Name of public drinking w		
☐ Surface water direct discharge (Name of stream): Distance to public drinking water intake (feet): ft.			
Impacts   Impacts   Nearby beach or other public area			
Length of impact downstream:    Fish kill or other impacted species			
☐ Fish kill or other impacted species Name of beach or public area:  Distance to a beach or public area (feet): ft.			
RESPONSE/CLEANUP			
Were samples taken? ☐ Yes   ☑ No			
Type of Şampleş Taken:   BOD TSS E.Coli Fecal Coliform Ammonia  Dissolved Oxygen None Other (describe):			
Attach copies of any analytical results.  Any corrective action taken?   Yes  No			
Clean up activity: A Flushing Removing Chemical Application Damming Other (describe):			
See "Narrative Description" on back page to add additional details.			
Clean up performed by			

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Attachment 5 Page 11 of 18

NARRATIVE DESCRIPTION		
Provide a narrative description to further explain why the Sanitary Sewer Overflow or Wastewater Treatment Facility Bypass occurred. For example, describe what equipment failed, what caused the power outage, or what plugged the sewer. Flooding should only be indicated as a cause if there is significant flooding caused by high river, stream or lake water levels (not just localized high water in the street).		
Flooding & Leavy rain.		
applica con constitutive to be a property of the property of t		
WET WEATHER DATA (IF APPLICABLE)  DATE(S) AND DURAT	ION(S) OF PAINEALL	
Start date  17 - 30 - 11    Time (to nearest 15 minutes)   3:00	End date  5 + 3 - 1\  7:00	
Amount of rainfall (nearest rain gauge to 0.1 inch accuracy)	Amount of snow melt (estimated inches melted)	
7+ inches		
Time period of rainfall: Hours Minutes	·	
Contributing soil conditions (saturated, frozen, soil type)		
ACTIONS TO CORRECT THIS OCCURRENCE AND PRE		
Describe what actions were taken to minimize the volume of waste form. Also describe what actions are planned to prevent or minimi bypasses, unless certain specified conditions are met. If the perm prevent overflows and bypasses, they are subject to enforcement	ze future overflows or bypasses. The MSOP permit prohibits ittee falls to operate and maintain the sewage collection system to	
·		
·		
REPORT COMPLETED BY		
Authorized representative frame (Please type or print)  Oau J James	Public Works Director	
Authorized representative signature  Authorized representative signature	Pablix Works Director  5-6-11	
MÖ 780-0000 (mm-yy)	Page 2	

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WATER PROTECTION	NG FOR SANITARY SEWE		R WASTEV	VATER <sup>-</sup>	TREATMENT
Standard Conditions, Bypassing or MSOP, all permittees shall pr Treatment Facility Bypass occur		g requirements listed in y	our Missouri S	State Oper	ating Permit,
NOTIFICATION INFORMATION		0.77			
PERMITTE (MUNICIPALITY OR FACILITY NA  COUNTY  AUTHORIZED	mo-0120081	DATE  5-2-11 TELEPHONE NUMBER WITH AREA	TIME	9:00	a.m. p.m.
Thiss Paux		573-233-58	92 3	ohn C	
	Bypass Mongo		DETAILS		
Date discovered	Time (to nearest 15 minutes)	End Date	Į.	me (to nea	arest. 15 minutes) a.m. 🔀 p.m.
Estimated volume of wastewater		Estimated rate of disch	arge in gallor	ns per mini	
	rom nearest highway: 🛶		ele a separale	e form for e	each discharge
Circumstances Causing Sanitary  A Rain  Power Outage  Equipment Failure  See "Narrative Description" on b	i Sewer Overflow or Wästewater T Rain or Snow Mel Plugged Sewer M. Widespread Flood ack page to add additional details. v or Wastewater Treatment Facility	lt	☐ Vandalism ☐ Broken Se ☐ Other (des	n ewer	-
Pipe Break Lagoon/Basin Overflow Digester/ Solids handling Manhole	☐ Head Works ☐ Drying Beds ☐ Lift Station ☐ Clarifier/Filter/Bat	ch Reactor	Effluent W CSO Outfa Aeration/B Constructi Other (des	all (Dry We Biological T Ion SSO scribe):	reatment
	flow or Wastewater Treatment Fa	cility Bypass: Raw	Partially T	Freated	Diluted
WATERCOURSE INFORMATIO					·····
☐ Runs on ground and absor ☐ Ditch, Name of surface wat ☐ Storm sewer. Name of surf ☐ Distance to stream if not yet ☐ Surface water direct discha	ter it drains to:  face water it drains to:  face water it drains to:  face ft.	The property of the property			
Impacts					
Length of impact downstream  Fish kill or other impacted	-	Nearby beach or other public area  Name of beach or public area:  Distance to a beach or public area (feet):  ft.			
RESPONSE/CLEANUP		,			
Were samples taken? ☐ Yes	No.		····		
Type of Şampleş Taken: 🗌 BOI Diss		l Coliform	ı		
Attach copies of any analytical re	esults:				
Any corrective action taken?  Clean up activity:  Refushing	Yes ⊠ No □ Removing □ Chemical		ning []Ot	ther (desci	ibe):
See "Narrative Description" on b	ack page to add additional details.			· · · · · · · · · · · · · · · · · · ·	·

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Clean up performed by

MO 780-0000 (mm-yy)

NARRATIVE DESCRIPTION			
Provide a narrative description to further explain why the Sanitary Sewer Overflow or Wastewater Treatment Facility  Bypass occurred. For example, describe what equipment failed, what caused the power outage, or what plugged the sewer.  Fleeding should only be indicated as a cause if there is significant flooding caused by high river, stream or lake water levels (not just localized high water in the street).			
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WET WEATHER DATA (IF APPLICABLE)	201/01/05 05 04 11/51 1		
Start date DATE(S) AND DURAT  Start date Time (to nearest 15 minutes)			
Start date 4-30-11 Time (to nearest 15 minutes) 3:00 a.m. Ki p.m.	End date  Time (to nearest 15 minutes)  [Xa.m. ] p.m.		
Amount of rainfall (nearest rain gauge to 0.1 inch accuracy)	Amount of snow melt (estimated inches melled)		
7 . 1			
/T Checks			
Time period of rainfall: Hours Minutes			
Contributing soil conditions (saturated, frozen, soil type)			
·			
ACTIONS TO CORRECT THIS OCCURRENCE AND PRE	VENT FUTURE OVERFLOWS OR BYPASSES		
Describe what actions were taken to minimize the volume of waste			
form. Also describe what actions are planned to prevent or minimi bypasses, unless certain specified conditions are met. If the perm	ze future overflows or bypasses. The MSOP permit prohibits littee falls to operate and maintain the sewage collection system to		
prevent overflows and bypasses, they are subject to enforcement	aguon,		
•			
•			
·	İ		
DEPORT COMPLETED BY			
REPORT COMPLETED BY Authorized representative name (Please type or print)	Title		
David Lervi	Pollie Works Director		
Authorized representative signature	Date-		
Pard Hans	Pollie Warks Director Date: 5-6-11		
MO 780-0000 (mm-yy)	Page 2		

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MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
SELF-REPORTING FOR SANITARY SEWER OVERFLOWS OR WASTEWATER TREATMENT **FACILITY BYPASSES** 

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Notice: Under the Misseuri Secretary of State's Code of State Re- Standard Conditions, Bypassing, and in accordance with reporting	requirements listed in your Misso	ouri State Operating Permit,	
or MSOP, all permittees shall provide the following notice(s) if an t	unschedüled Sanitary Sewer Over	flow, or SSO, or Wastewater	
Treatment Facility Bypass occurs:		5:	
	DATE	TIME 1601 HOLD IN	
Charleston Mo.0120081	5-2-11	7.00 ≱a.m. □ p.m.	
COUNTY AUTHORIZED REPRESENTATIVE REPORTING	TELEPHONE NUMBER WITH AREA CODE	DNR OFFICE AND PERSON CONTACTED	
SANITARY SEWER OVERFLOW OR WASTEWATER TREATME	573-233-5892 ENT FACILITY BYPASS DETAIL	John Chromist	
	<del></del>	<u></u>	
Date discovered Time (to nearest 15 minutes)	ing or Contained	Time the property 45 minutes	
5-2-1 7100 Da.m. p.m.	3-5-11	Time (to nearest 15 minutes)    1   100     2   a.m.   p.m.	
Estimated volume of wastewater discharged (gallons)	Estimated rate of discharge in g	•	
Location of the Sanitary Sewer Overflow or Wastewater Treatmen	t Facility Bypass (complete a sepa	arate form for each discharge	
location and complete all that apply)  a. Street Location:			
b. Manhole #:			
c. Directions to the site from nearest highway:	- 1		
d. Location defined by GPS: 305, E	: Communical		
e. Physical Address: f. Township/Range:	•		
Circumstances Causing Sanitary Sewer Overflow or Wastewater T	reatment Facility Bypass (check a	ell that apply):	
Rain or Snow Mel	· <u> </u>	• • • •	
Power Outage Plugged Sewer Equipment Failure Widespread Floor		n Sewer (describe):	
See "Narrative Description" on back page to add additional details.		(describe).	
Type of Sanitary Sewer Overflow or Wastewater Treatment Facility	y Bypass (check all that apply):	•	
☐ Pipe Break ☐ Head Works		nt Weir/Flume	
Lagoon/Basin Overflow Drying Beds Digester/ Solids handling Lift Station		Outfall (Dry Weather) on/Biological Treatment	
Manhole Clarifier/Filter/Bat		nuction SSO	
		(describe):	
Strength of Sanitary Sewer Overflow or Wastewater Treatment Facility Bypass: Raw Partially Treated Diluted			
WATERCOURSE INFORMATION Discharm	e Course		
Runs on ground and absorbs into the soil	Discharge entering losing st	ream or sinkhole	
Ditch. Name of surface water it drains to:	Nearby public drinking water		
Storm sewer. Name of surface water it drains to: 19	Other, describe:		
Distance to stream if not yet reached (feet):	Name of public drinking water in	ntake:	
☐ Surface water direct discharge (Name of stream): Distance to public drinking water intake (feet): ft.			
Impacts			
Length of impact downstream:	Nearby beach or other public	area	
Fish kill or other impacted species	Name of beach or public area: Distance to a beach or public ar	ea (feet): ft.	
RESPONSE/CLEANUP			
Were samples taken? Yes You			
Type of Şampleş Taken:   BOD TSS E.Coli Fecal Coliform Ammonia  Dissolved Oxygen None Other (describe):			
Attach copies of any analytical results.			
Any corrective action taken?   Yes  No			
Clean up activity: 🔀 Flushing 🔲 Removing 🔲 Chemical Application 🔲 Damming 🔲 Other (describe):			
See "Narrative Description" on back page to add additional details.			
Clean up performed by			
L		<u></u>	

Provide a narrative description to further explain why the Sar			
Provide a narrative description to further explain why the Sanitary Sewer Overflow or Wastewater Treatment Facility  Bypass occurred. For example, describe what equipment failed, what caused the power outage, or what plugged the sewer.  Flooding should only be indicated as a cause if there is significant flooding caused by high river, stream or lake water levels (not just localized high water in the street).			
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•			
NUT NICATUED DATA (IC ADDI ICADI EL			
WET WEATHER DATA (IF APPLICABLE)	TION(S) OF RAINFALL		
Start date // 7 / Time (to nearest 15 minutes)			
Start date 4:30 -   Time (to nearest 15 minutes) 3:60 a.m. x p.m.	End date 7 - 11 Time (to nearest 15 minutes) 7 :00 (X a.m. □ p.m.		
Amount of raintall (nearest rain gauge to U.1 )nch accuracy)	Amount of snow melt (estimated inches melted)		
7 + inches			
Time period of rainfall: Hours Minutes			
time period of rapidan. Hours windles			
Contributing spil conditions (saturated, frozen, soil type)			
Contributing spil conditions (saturated, frozen, soil type)			
Contributing spil conditions (saturated, frozen, soil type)  ACTIONS TO CORRECT THIS OCCURRENCE AND PRE			
Contributing soil conditions (saturated, frozen, soil type)  ACTIONS TO CORRECT THIS OCCURRENCE AND PRE Describe what actions were taken to minimize the volume of wast	ewater discharged from the overflow or bypass reported on this		
Contributing soil conditions (saturated, frozen, soil type)  ACTIONS TO CORRECT THIS OCCURRENCE AND PRE Describe what actions were taken to minimize the volume of wast form. Also describe what actions are planned to prevent or minim	ewater discharged from the overflow or bypass reported on this ize future overflows or bypasses. The MSOP permit prohibits		
Contributing soil conditions (saturated, frozen, soil type)  ACTIONS TO CORRECT THIS OCCURRENCE AND PRE Describe what actions were taken to minimize the volume of wast form. Also describe what actions are planned to prevent or minim	ewater discharged from the overflow or bypass reported on this ize future overflows or bypasses. The MSOP permit prohibits littee falls to operate and maintain the sewage collection system to		
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WATER PROTECTION SELF-REPORTION FACILITY BYPA	NG FOR SANITARY SEWI SSES	ER ÖVERFLÖWS OR WAS		
or MSOP, all permittees shall pr Treatment Facility Bypass occur	, and in accordance with reporting ovide the following notice(s) if an st.	g requirements listed in your Mis	souri State Operating Permit,	
NOTIFICATION INFORMATION PERMITTE (MUNICIPALITY OR FACILITY OR		DATE	TIME	
( harden to	1110.0120081	5-2-11	TIMEG; OU Da.m. □ p.m.	
COUNTY DAVIDORIZED	REPRESENTATIVE REPORTING	TELEPHONE NUMBER WITH ABEA CODE 573-231-5842 IENT FACILITY BYPASS DETA	DND OFFIGE AND PERSON CONTACTED  JOHN Moment	
<del> </del>			ico	
Decision of E		oing or ☐ Contained	·	
Date discovered 5-2-11	Time (to nearest 15 minutes)  7 ⋅ 00		Time (to nearest 15 minutes) ☐ a.m. ☐ p.m.	
Estimated volume of wastewater	discharged (gallons)	Estimated rate of discharge in	gallons per minute	
Location of the Sanitary Sewer Clocation and complete all that ap a. Street Location: b. Manhole #: c. Directions to the site f d. Location defined by G e. Physical Address: f. Township/Range:	ply) rom nearest highway:	nt Facility Bypass (complete a se	parate form for each discharge	
Rain Power Outage Equipment Failure See "Narrative Description" on b	Rain or Snow Mo Plugged Sewer WWidespread Floo ack page to add additional detail	ording	k all that apply): dalism ken Sewer er (describe):	
Type of Sanitary Sewer Overflow Pipe Break Lagoon/Basin Overflow Digester/ Solids handling Manhole	v. or Wastewater Treatment Facili	Efflu   CSC   Aero tch Reactor   Con	nent Weir/Flume O Outfall (Dry Weather) ation/Biological Treatment struction SSO er (describe):	
Strength of Sanitary Sewer Over	flow or Wastewater Treatment F		tially Treated 💢 Diluted	
WATERCOURSE INFORMATIO	WATERCOURSE INFORMATION			
	·	ge Course	-land and a state of the state	
☐ Runs on ground and absorbs into the soil ☐ Ditch. Name of surface water it drains to: ☐ Discharge entering losing stream or sinkhole ☐ Nearby public drinking water intake ☐ Other, describe:		ter intake		
Distance to stream if not y		Name of public drinking water		
Surface water direct discharge (Name of stream):  Distance to public drinking water intake (feet):  Impacts				
Length of impact downstream		Nearby beach or other pub	lic area	
Fish kill or other impacted		Name of beach or public areas		
El i isti kili di dalei impacted	species	Distance to a beach or public		
RESPONSE/CLEANUP				
Were samples taken? ☐ Yes ☑ No				
Type of Şampleş Taken: 🗌 BÖl		al Coliform		
Attach copies of any analytical r				
Any corrective action taken?				

☐ Chemical Application

□ Damming

Clean up activity: A Flushing Removing Chemical A See "Namative Description" on back page to add additional details.

Clean up performed by

MO 780-0000 (mm-yy)

Other (describe):

NARRATIVE DESCRIPTION			
Provide a narrative description to further explain why the Sani Bypass occurred. For example, describe what equipment failed, Flooding should only be indicated as a cause if there is significant not just localized high water in the street).	what caused the power outage, or	what plugged the sewer.	
Because of the New Hood we have some main care in on the 500 block of E Commercial.			
Carrin on the SCO block	of E Commer	erol.	
We are bypassing to the			
The main is about 10' as soon as possible	dop we will	repair	
as soon as possible			
ı			
WET WEATHER DATA (IF APPLICABLE)	<del></del>		
DATE(S) AND DURAT			
Start date 4-30-1   Time (to nearest 15 minutes)	End date -3-11	Ime (to nearest 15 minutes)	
Amount of rainfall (nearest rain gauge to Q.1 inch accuracy)	Amount of snow melt (estimated	inches melted)	
7+ incles		·	
Time period of rajnfall: Hours Minutes	•		
Contributing spil conditions (saturated, frozen, soil type)			
ACTIONS TO CORRECT THIS OCCURRENCE AND PRE			
Describe what actions were taken to minimize the volume of waste form. Also describe what actions are planned to prevent or minimi bypasses, unless certain specified conditions are met. If the perm prevent overflows and bypasses, they are subject to enforcement:	ze future overflows or bypasses. ittee fails to operate and maintain	The MSOP permit prohibits	
•			
REPORT COMPLETED BY Authorized representative name (Please type or print)	Title	/\ .	
Pavid Garris	Pullie Warks	Directo	
Authorized representative signature  Nord Homi	Pulhi Warbs		
MO 780-0000 (mm-yy)		Page 2	

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8					· · ·				·····					
		· ·												
										<del></del>				Total
			<u> </u>							<del></del>				FY 2014-15
		May, '14	June, '14	July, '14	Aug, '14	Sept, '14	Oct, '14	Nov, '14	Dec, '14	Jan, '15	Feb, '15	Mar, '15	Apr, '15	Budget
		Iviay, 14	Julie, 14	July, 14	Aug, 14	Зері, 14	Oct, 14	1400, 14	Dec, 14	Jan, 13	reb, 13	iviai, 15	Αμι, 13	buuget
COUNT NUMBER	Wastewater Expenses									<del></del>				
LOONT NOWBER	wastewater Expenses	<del></del>								·				
	- Total Personnel Costs	25,127	18,043	18,043	18,043	18,043	25,062	18,108	19,253	18,293	18,293	21 702	10 202	44646
2400 4000 400		23,127			10,043	10,043	25,002		19,233	10,293		31,793 0	18,293	246,39
3100-4000-100	- Insurance Costs	<del>-</del>		45,000					U	U			0	45,000
	S	<del> </del>												
2400 2000 400	- Supplies	2.002	2.002	2.052	2.002	2.000	2.002	2.002	2.002	2.000	2.002	2.000	3.063	
3100-3000-100	Fuel Costs (16.7%)	2,063	2,063	2,063	2,063	2,063	2,063	2,063	2,063	2,063	2,063	2,063	2,063	24,75
-3100-4000-600	Office Supplies	100	100	100	100	100	100	100	100	100	100	100	100	1,20
-3100-2000-110	Postage	450	450	450	450	450	450	450	450	450	450	450	450	5,40
-3100-2000-400	Building Supplies	100		100	100	100	100	100	100	100	100	<del></del>	100	1,20
3100-2000-500	Clothing	160		1.60	160	160	160	160	160	160	160		160	1,92
3100-2000-700	Chemicals	25	25	25	25	25	25	25	25	25	25		25	30
3100-2000-600	Minor Tools	50		50	50	50	50	50	50	50	50		50	60
3100-3000-101	Misc Supplies	50	50	50	50	50	50	50	50	50	50	50	50	60
	Sub-Total	2,998	2,998	2,998	2,998	2,998	2,998	2,998	2,998	2,998	2,998	2,998	2,998	35,97
	- Maintenance													
-3100-3000-200	Vehicle Maintenance	150	150	150	150	150	150	150	150	150	150	150	150	1,800
-3100-3000-300	Building Maintenance	300	300	300	300	300	300	300	300	300	300	300	300	3,600
-3100-3000-503	Equipment Leases/Maint.	800	800	800	800	800	800	800	800	800	800	800	. 800	9,600
-3100-3000-500	Pump Maintenance	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	36,000
-3100-3000-501	Instruments	35		35	35	35	35	35	35	35	35	35	35	420
-3100-3000-507	UV Maintenance	200		200	200	200	0		0	0		<del></del>	0	1,000
-3100-6000-500	Line Maintenance	1,000		1,000	1,000	1,000	1,000	1,000	1,000	1,000			1,000	12,00
-3100-6000-501	Miscellaneous	100		100	100	100	100	100	100	100	100	100	100	1,20
3203 0000 301	Sub-Total	5,585		5,585	5,585	5,585	5,385	5,385	5,385	5,385	5,385	5,385	5,385	65,62
	300-1001		3,303	2,303	2,333	3,303	3,303	3,303	2,303	2,303	3,363	3,363	2,303	3,02
	- Utilities	<del> </del>	<del> </del>		<del></del>	<del> </del>				<del></del> -	<u> </u>	-		
-3100-4000-300	Electricity	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	84,00
	Telephone / Internet	100		100			100	100	100	100			100	04,00
-3100-4000-400	Sub-Total	7,100		7,100		7,100	7,100	7,100	7,100	7,100				1,20 <b>85,20</b>
	Sup-Total	7,100	7,100	7,100	7,100	7,100	7,100	7,100	7,100	7,100	7,100	7,100	7,100	~ 85,20
	Durch and Comiles		<del> </del>	<del></del> -					ļ		ļ		<del></del>	
2400 4000 200	- Purchased Services	<del> </del>	<del> </del>		<u> </u>						ļ <u>-</u>	<del> </del>	·	
3100-4000-200	Audit	0	<del></del>						2,000	0				2,00
3100-4000-205	Employee Drug Testing	50								0				20
-3100-4000-907	MO One Cali	30							30	30				36
-3100-4000-704	Lab Services	775					775	775	775	775		<del></del>	775	2,00 20 36 930 12,00
3-3100-4000-202	Professional Services	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	12,00

Wast Water

Attachment <u>C Page / of 5</u>

-3100-4000-911	DNR Fees	0	0	0	0	0	0	0	1,400	0	. 0	0	0	1,40
-3100-6000-805	Miscellaneous	200	200	200	200	200	200	200	200	200	200	200	200	24(
	Sub-Total	2,055	2,005	2,005	2,055	2,005	2,005	2,055	5,405	2,005	2,055	2,005	2,005	27,60
	·													
														Total
														FY 2014-1
		May, '14	June, '14	July, '14	Aug, '14	Sept, '14	Oct, '14	Nov, '14	Dec, '14	Jan, '15	Feb, '15	Mar, '15	Apr, '15	Budget
COUNT NUMBER														
-3100-4000-703	- Debt Service	6,900	52,946	6,900	6,900	6,900	6,900	6,900	186,642	6,900	6,900	6,900	6,900	308,58
-3100-4000-910	- Auto Allowance	150	150	150	150	150	150	150	150	150	150	150	150	1,80
-3100-1100-120	- Training / Dues	50	50	50	50	50	50	50	50	50	50	50	50	- 60
	Total WW Operating Expenses	49,965	88,877	87,831	42,881	42,831	49,650	42,746	226,983	42,881	42,931	56,381	42,881	816,83
														and the second
	Capital Expenses													mires of the same
-3100-7000-100	New Storage Bldg (25%)	0	0	0	0	0	0	0	0	0	0	0	0	
-3100-7000-101	New Pick-Up Truck	0	0	0	0	0	0	0	0	0	0	0	0	
-3100-7000-102	Lift Station Renovations (2)	0	0	. 0	0	0	0	0	0	0	0	0	0	7.5
-3100-7000-103	Sewer Line Testing	0	0	0	0	0	100,000	0	0	0	0	0	0	
-3100-7000-104	Lagoon Renovation	0	0	0	0	60,000	0	. 0	0	0	0	0	0	
	Total Capital Expenses	0	0	0	0	60,000	100,000	0	0	0	0	0	0	160,00
	Total Wastewater Expenses	49,965	88,877	87,831	42,881	102,831	149,650	42,746	226,983	42,881	42,931	56,381	42,881	- 976,8
	TOTAL SYSTEM OPERATING EXP	98,910	133,573	187,120	84,627	87,527	110,990	84,522	278,054	94,492	84,892	504,685	94,492	1,844,9
	W / WW SYSTEM TOTAL EXP	00.010	122 572	107 120	94 627	147 537	210.000	04 533	270.054	04.403	04.000	F04 COF	04.403	
	VV / VV VV SYSTEIVI TOTAL EXP	98,910	133,573	187,120	84,627	147,527	210,990	84,522	278,054	94,492	84,892	504,685	94,492	2,004,9

City of Charleston, MO													
Y 2015- 2016													Total
Water / WW System												8	FY 2015-16
	May, '15	June, '15	July, '15	Aug, '15	Sept, '15	Oct, '15	Nov, '15	Dec, '15	Jan, '16	Feb, '16	Mar, '16	Apr, '16	Budget
EVENUES													
Water Revenues													
- Residential User Fees	34,400	34,400	34,400	34,400	34,400	34,400	34,400	34,400	34,400	34,400	34,400	34,400	412,80
- Metered User Fees	5,500	5,500	7,000	6,600	6,100	6,500	6,500	5,000	5,000	5,500	5,500	5,500	70,20
- Prison User Fees	15,000	15,000	20,000	25,000	20,000	20,000	18,000	17,000	15,000	15,000	15,000	15,000	210,00
- Sales / Use Tax	2,700	2,700	2,700	2,700	2,700	2,700	2,700	2,700	2,700	2,700	2,700	2,700	32,40
- Interest Income	300	300	300	300	300	300	300	300	300	300	300	300	3,60
- Water Deposits	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	24,00
- Penalty Income	2,850	2,850	2,850	2,850	2,850	2,850	2,850	2,850	2,850	2,850	2,850	2,850	34,20
- Prison Connection Fee	0	0	140,000	0	0	0	0		0	0	0	0	140,00
- Rural Water Fees	5,000	6,000	7,500	9,300	8,000	6,400	5,900	5,000	5,000	5,000	5,000	5,000	73,10
- All Other Water Income	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	12,00
Sub-Total; Water Revenues	68,750	69,750	217,750	84,150	77,350	76,150	73,650	70,250	68,250	68,750	68,750	68,750	1,012,3
Wastewater Revenues												<u> </u>	
- Residential User Fees	38,000	38,000	38,000	38,000	38,000	38,000	38,000	38,000	38,000	38,000	38,000	38,000	456,0
- Metered User Fees	6,000	7,000	7,000	6,000	6,000	6,500	6,500	7,000	7,000	7,000	7,000	7,000	80,0
- Prison User Fees	20,000	22,500	28,500	35,000	30,000	26,000	25,000	28,000	30,000	20,000	20,000	20,000	305,0
- All Other WW Income	50	50	50	50	50	50	50	50	50	50	50	50	6
Sub-Total; WW Revenues	64,050	67,550	73,550	79,050	74,050	70,550	69,550	73,050	75,050	65,050	65,050	65,050	841,6
Grant / Loan Proceeds	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL SYSTEM REVENUES	132,800	137,300	291,300	163,200	151,400	146,700	143,200	143,300	143,300	133,800	133,800	133,800	1,853,90
										/			

Wastewater Expenses	May, '14												
wastewater Expenses		June, '14	July, '14	Aug, '14	Sept, '14	Oct, '14	Nov, '14	Dec, '14	Jan, '15	Feb, '15	Mar, '15	Apr, '15	Budge
- Total Personnel Costs	27,265	19,428	19,428	19,428	19,428	27,200	19,493	20,773	19,645	19,645	32,245	19,645	263,
- Insurance (31.5%)	27,203	0	51,975	0		0	15,455	0	0	0	0	13,043	51,
insurance (31.5%)	U	0	31,973	0	0	U	U	U	0	0	U	0	31,
- Supplies													
Fuel Costs (20.0%; 32.5%)	1,375	1,375	1,375	1,375	1,375	1,375	1,375	1,375	1,375	1,375	1,375	1,375	16,
Office Supplies	100	100	100	100	100	100	100	100	100	100	100	100	1,
Postage	400	400	400	400	400	400	400	400	400	400	400	400	4,
Building Supplies	100	100	100	100	100	100	100	100	100	100	100	100	1,
Clothing / Uniforms	225	225	225	225	225	225	225	225	225	225	225	225	2,
Chemicals	100	100	100	100	100	100	100	100	100	100	100	100	1,
Minor Tools	50	50	50	50	50	50	50	50	50	50	50	50	
Misc Supplies	50	50	50	50	50	50	50	50	50	50	50	50	
Sub-Total	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	28,
Maintenance						~							
Vehicle Maintenance	150	150	150	150	150	150	150	150	150	150	150	150	1
Building Maintenance	300	300	300	300		300	300	300	300	300	300	300	3
Equipment Leases / Maint.	1,806	500	750	1,806		750	1,806	500	750	1,806	500	750	12
Pump Maintenance	3,000	3,000	3,000	3,000		3,000	3,000	3,000	3,000	3,000	3,000	3,000	36
Lift Station Maintenance	0	0	7,000	0		0	0	0	0	0	0	0	52
Lagoon Maintenance	8,900	250	250	250	-	250	250	250	250	250	250	250	11,
Instruments	35	35	35	35		35	35	35	35	35	35	35	
UV Maintenance	200	200	200	200		0	0		0	0	0	0	1,
Line Maint. / Testing	3.000	5.000	5,000	5.000		3,000	3,000	3,000	3,000	3,000	3,000	3,000	44,
		100	100	100		100	100	100	100	100	100	100	1
Miscellaneous	100												
Sub-Total	17,491	9,535	16,785	10,841	54,535	7,585	8,641	7,335	7,585	8,641	7,335	7,585	163,
- Utilities													
Electricity	7,500	8,000	10,000	9,500	9,000	8,500	7,000	8,500	8,000	8,000	7,750	7,750	99,
Telephone / Internet	100	100	100	100	100	100	100	100	100	100	100	100	1,
Sub-Total	7,600	8,100	10,100	9,600	9,100	8,600	7,100	8,600	8,100	8,100	7,850	7,850	100,
- Purchased Services													
Audit	0	0	0	0	2,250	0	0	0	0	0	0	0	2
Employee Drug Testing	50	0	0	50		0	50		0	50	0	0	
MO One Call	30	30	30	30		30	30		30	30	30	30	
DNR Fees	0	0	0	0		0	1,600		0	0	0	0	1
Lab Services	750	750	750	750		750	750		750	750	750	750	9
Professional Services	1,000	1.000	1,000	1.000		1,000	1,000		1,000	1,000	1,000	1,000	12
Miscellaneous	200	200	200	200		200	200		200	200	200	200	2
Sub-Total	2,030	1,980	1,980	2,030		1,980	3,630	1,980	1,980	2,030	1,980	1,980	27

						1911							Total FY 2015-16
	May, '15	June, '15	July, '15	Aug, '15	Sept, '15	Oct, '15	Nov, '15	Dec, '15	Jan, '16	Feb, '16	Mar, '16	Apr, '16	Budget
- Debt Service	7,416	48,500	7,416	7,416	7,416	7,416	191,000	7,416	0	0	0	0	283,996
- Auto Allowance	150	150	150	150	150	150	150	150	150	150	150	150	1,800
- Training / Dues	50	50	50	50	50	50	50	50	50	50	50	50	600
Total WW Operating Expenses	64,402	90,143	110,284	51,915	97,309	55,381	232,464	48,704	39,910	41,016	52,010	39,660	923,193
Capital Expenses													
De-Watering Pump	0	0	50,000	0	0	0	0	0	0	0	0	0	50,000
Total Capital Expenses	0	0	50,000	0	0	0	0	0	0	0	0	0	50,000
Total Wastewater Expenses	64,402	90,143	160,284	51,915	97,309	55,381	232,464	48,704	39,910	41,016	52,010	39,660	973,193
TOTAL SYSTEM OPERATING EXP	118,047	131,495	231,338	99,868	142,416	116,247	277,807	92,222	92,006	87,761	106,299	91,006	1,587,613
TOTAL CAPITAL EXPENSES	0	0	77,500	0	0	0	0	0	0	0	0	0	77,500
W / WW SYSTEM TOTAL EXP	118,047	131,495	308,838	99,868	142,416	116,247	277,807	92,222	92,006	87,761	106,299	91,006	1,665,113
Fund Excess (Deficit)	14,753	5,805	-17,538	63,332	8,984	30,453	-134,607	51,078	51,294	46,039	27,501	42,794	188,787

TABLE 1.5 - PROJECTED POPULATION

· ASSERTATION .

	City of	f Charleston	Mississ	sippi County					
<u>Year</u>	<b>Population</b>	Percent Change	<u>Population</u>	Percent Change					
1990	5,085	N/A	14,442	N/A					
2000	4,732	-6.94	13,427	-7.03					
2007	5,190	+9.67	13,494*	+0.5					
2008	5,692*	+9.67	13,504	+0.07					
* Estimated Population									
Source:	Source: U.S. Department of Commerce, Bureau of Census.								

According to the 2000 U.S. Census, the median household income for the City was \$21,812, and the median family income was \$28,178. Males had a median income of \$25,908 versus \$17,292 for females. The per capita income for the City was \$12,876. Approximately 21.2% of families and 26.0% of individuals in the population were below the poverty line.

## 2. DESCRIPTION OF EXISTING WASTEWATER TREATMENT SYSTEM

A schematic of the City of Charleston Wastewater Treatment Plant (WWTP), labeled Figure 3 can be found at the end of this report. It shows the wastewater's flow path as it travels through the facility to the discharge point at the unnamed tributary.

The City's existing Missouri State Operating Permit, MO-0120081, for the design flow of 1.5 million gallons per day (MGD), was issued on January 23, 2009 and will expire on January 22, 2014. The operating permit lists the facility as having three (3) aerated lagoon cells and one (1) sludge retention cell that utilizes a weir structure to retain the sludge. This system is designed for a population equivalent of 15,000 and a sludge production of 225 dry tons per year.

The City's permit outlines two separate sets of ammonia effluent discharge parameters, one during and one outside the months between November and April, which the City must meet. The existing permit requires that the facility monitor its ammonia levels, temperature, and influent flow. It addition, the system must maintain a monthly average of 10 mg/L for oil and grease and pH reading between 6 and 9 standard units.

In accordance with the City's Water Quality Review Sheet (WQRS) limitations, the biological oxygen demand (BOD) requirements are 65 milligrams per liter (mg/L) for a weekly average and 45 mg/L for a monthly average. The Total Suspended Solids (TSS) are limited to 110 mg/L for a weekly average and 70 mg/L for the monthly average. The WQRS limitations on ammonia require a monthly average of less than 1.4 mg/L between the months of May and October and less than 2.9 mg/L between the months of November and April of each year.

The existing wastewater treatment facility was originally designed with a pump station, three lagoon cells, and discharge piping into an unnamed stream that flows into Stevenson Bayou. The wastewater facility has since been improved with the addition of a fourth lagoon cell. This additional cell is an aerated lagoon that serves as the existing primary aerated cell for the facility. The previous primary aerated cell is still in use at the facility. It now serves as a secondary



aerated cell. The 16" force main that feeds the facility is plumbed into both the primary and secondary cell. This serves to help prevent any downtime or bypass to the facility when maintenance or repairs are necessary. The following paragraphs describe the existing treatment process.

#### 2.1. Primary Cell (Cell #1)

The wastewater treatment system's primary cell has a rectangular shape, with an approximate surface area of 295,800 square feet and has side slopes at a 3:1 ratio. The maximum design volume is approximately 26.5 million gallons. With the system's current permitted design flow of 1.5 million gallons per day, the design detention time for the primary lagoon cell is approximately 17.67 days. The detention time in the primary cell accounts for approximately 53% of the system's total detention time. The primary cell is where the system's overall treatment for BOD and TSS reduction takes place. The primary cell is served by its own aeration system. This blower building is located on the northern levee between the primary cell and the secondary aeration cell. The flow of wastewater that runs through the primary treatment cell begins by entering at the southeastern corner of the cell and ends by leaving at its northeastern corner. The following paragraph describes the outlet structure situated at the primary cell's northeastern corner; it is referred to as Transfer Structure #1.

#### 2.2. Transfer Structure #1

Wastewater from the primary cell is transferred to the secondary aeration cell by 700' of 18" HDPE pipe. Transfer Structure #1 draws wastewater out of the primary cell and transports it to the original inlet structure to the secondary aeration cell. The secondary aeration cell inlet pipes are equipped with fittings that allow their openings to be oriented downward toward the lagoon bottom. The purpose of having a downward orientation is to prevent any solids on the lagoon's surface from entering the pipes and possibly wreaking havoc on their ability to transfer flow. Transfer structure #1 transfers the wastewater from the primary cell to the next step in the wastewater treatment process, the Secondary Aeration Cell.

#### 2.3. Secondary Aeration Cell (Cell #2)

The secondary aeration cell represents the next stage in the wastewater treatment process. It provides the second stage in the three stage system to assist in reducing the Ammonia, BOD and TSS in the wastewater. Wastewater enters the cell at its eastern lagoon levee through the transfer structure described above. The secondary cell was originally designed to be the facilities primary treatment cell. The secondary aeration cell has a surface area of approximately 175,500 square feet. The wastewater treatment system's secondary cell has a rectangular shape with sides that have a 3:1 slope ratio. The secondary cell has a maximum design volume of approximately 10.21 million gallons. With the system's current permitted design flow of 1.5 million gallons per day, the detention time for the secondary aeration cell approximately 6.8 days. The secondary aeration cell has a design detention time that accounts for approximately 20.4% of the total detention time for the system. The flow of wastewater that runs through the secondary aeration cell ends by leaving at its western levee. The following paragraph describes the outlet structure situated at the secondary cell's western levee that transfers treated wastewater to the system's Additional Secondary Aeration Cell; it is referred to as Transfer Structure #2.

#### 2.4. Transfer Structure #2

Wastewater from the secondary aeration cell is transferred to the additional secondary aeration cell by 255' of pipe. Transfer Structure #2 draws wastewater out of the cell #2 and transports it



to cell #3. The inlet pipes to cell #3 are also equipped with fittings that allow their openings to be oriented downward toward the lagoon bottom. Transfer structure #2 transfers the wastewater from the secondary aeration cell to the next step in the wastewater treatment process, the Additional Secondary Aeration Cell.

# 2.5. Additional Secondary Aeration Cell (Cell #3)

The Additional Secondary Aeration Cell represents the next stage in the wastewater treatment process. It provides the third stage in the three stage system to assist in reducing the Ammonia, BOD and TSS in the wastewater. Wastewater enters the cell at its northern lagoon levee through the transfer structure described above. Cell #3 was originally designed to be the facility's secondary treatment cell. The additional secondary aeration cell has a surface area of approximately 162,000 square feet. The wastewater treatment system's additional secondary cell has a square shape with sides that have a 3:1 slope ratio. The additional secondary cell has a maximum design volume of approximately 9.26 million gallons. With the system's current permitted design flow of 1.5 million gallons per day, the detention time for the secondary aeration cell approximately 6.17 days. The additional secondary aeration cell has a design detention time that accounts for approximately 18.5% of the total detention time for the system. The flow of wastewater that runs through the additional secondary aeration cell ends by leaving at its eastern levee. The following paragraph describes the outlet structure situated at the additional secondary cell's eastern levee that transfers treated wastewater to the system's Polishing Cell; it is referred to as Transfer Structure #3.

# 2.6. Transfer Structure #3

Wastewater from the secondary aeration cell is transferred to the additional secondary aeration cell by 140' of pipe. Transfer Structure #3 draws wastewater out of the cell #3 and transports it to the polishing cell. The inlet pipes to cell #3 are also equipped with fittings that allow their openings to be oriented downward toward the lagoon bottom. Transfer structure #3 transfers the wastewater from the additional secondary aeration cell to the next step in the wastewater treatment process, the *Polishing Cell*.

# 2.7. Polishing Cell (Cell #4)

The polishing cell represents the final stage in the wastewater treatment process. Wastewater enters the cell at its southwestern corner through the transfer structure described above. The polishing cell was designed to be the facilities final treatment cell. The polishing cell, or facultative stabilization pond, serves as the final clarifier for the treatment facility. The biological solids sink to the bottom and the effluent waste water from this cell is released through a weir structure. This weir structure is known as the Discharge Structure. The polishing cell has a surface area of approximately 86,500 square feet. The wastewater treatment system's polishing cell has a semi-rectangular shape with sides that have a 3:1 slope ratio. The polishing cell has a maximum design volume of approximately 4.10 million gallons. With the system's current permitted design flow of 1.5 million gallons per day, the detention time for the polishing cell approximately 2.7 days. The polishing cell has a design detention time that accounts for approximately 8.1% of the total detention time for the system. The total design detention time for entire facility is approximately 33.34 days.

### 2.8. Outfall Stream

The outfall stream for the City of Charleston wastewater treatment plant is an Unnamed Tributary that leads to Stevenson Bayou. The treated effluent leaves the plant through Outfall



#001 which is clearly marked on-site. The location of the outfall is NW ½ SE ¼, Section 33, Township 27 North, and Range 16 East in Mississippi County, Missouri. The nearest downstream water body to Stevenson Bayou is Fish Lake Ditch. In the following sections of this report the problems facing the wastewater plant will be discussed.

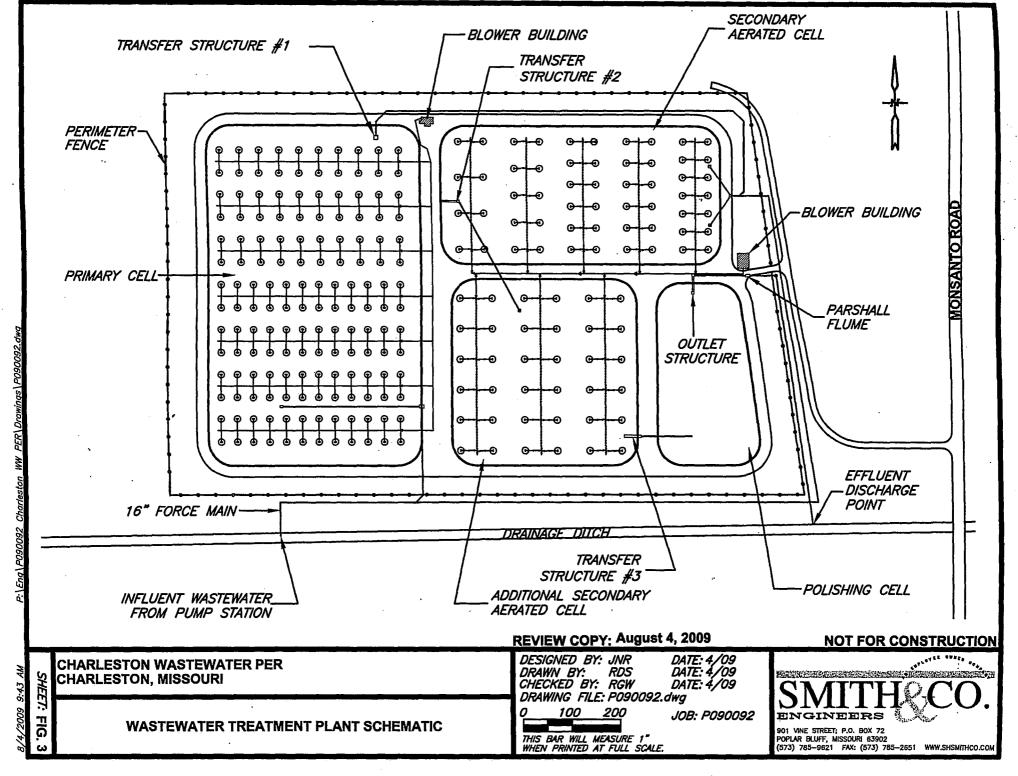
# 3. DESCRIPTION OF PROBLEM

# 3.1. Ammonia Effluent Levels

Among the problems currently faced by the City of Charleston wastewater treatment plant is the fact that the system has been out of effluent compliance. The parameters that the plant has failed to meet on a consistent basis are those related to the level of Ammonia in the plant's effluent which is discharged into Stevenson Bayou. According to the testing documentation, during the 14 month period between December, 2007 and January, 2009, the WWTP was above maximum allowable ammonia level for 8 months, 57% of the time. The City's yearly average ammonia discharge level is 4.54 mg/L. The City's permit currently allows for a discharge ammonia level of 3.1 mg/L from Nov 1st through April 30th and 1.5 mg/L from May 1st through September 31st. Many lagoon-based systems provide adequate ammonia removal during the summer months when the surrounding climate is hot and humid. However, during the winter months, when the weather is cold and dry, the biological nitrification process is slowed. This results in compliance issues of ammonia removal for the WWTP. The Measured Effluent Ammonia vs. WQRS Limits chart in appendix C shows the measured effluent ammonia levels for the WWTP. During the months of December through March/April, the ammonia levels are far out of compliance with MDNR limitations. In contrast, during the months of May through September/October the effluent ammonia levels are well below the required limits. Consideration must be given to alternative design processes that will be capable of meeting these effluent limitations. According to the treatment plant's last operating permit issued January 23, 2009 and expires January 22, 2014, the maximum permitted BOD levels, were 65 mg/L as a weekly average and 45 mg/L as a monthly average. There was no daily maximum on the permit but the effluent BOD reading cannot be very much higher than the weekly average. The observed maximum level during the December, 2007 to January, 2009 time period for BOD was 47.5 mg/L and 172 mg/L for TSS during the month of March, 2008. This indicates that the system was possibly overloaded during the month, excessive rainfall during the month, or possibly an error occurred in the process of catching the sample. It is desirable to have a low ammonia concentration in a final effluent because it is toxic to fish and other aquatic life. The Ammonia that is being released into Stevenson Bayou is harmful, not only the immediate discharge area, but also to the area downstream of the WWTP. Unsuspecting children that decide to play near Stevenson Bayou downstream of the WWTP are in danger due to the condition of the existing treatment system. It's imperative that the City of Charleston take action to comply with MDNR permitting requirements. The existing wastewater treatment facility is out of compliance with its current permit and the limits outlined in the latest Stevenson Bayou Water Quality Review Sheet To avoid the possibility of fines, the system must be upgraded. Measured Effluent Linear Charts, located at the end of this report; show that the system is operating out of compliance.

# 3.2. Inflow & Infiltration

Near record breaking rainfall in southeast Missouri can be attributed to the spike in the readings for the Measured Effluent Linear Charts located in appendix C. Cape Girardeau, MO, approximately 30 miles away, received 30.62" of seasonal rainfall. This was recorded as the 2<sup>nd</sup>



# Notice of Potential National Pollution Discharge Elimination System (NPDES) PERMIT VIOLATIONS

Permittee (facility) Name and Address:
City of Charleston
PO Box 216 Charleston, MO 63834
NAME OF THE PARTY
NPDES Permit Number:  MO-012008/
During the Clean Water Act § 308 compliance inspection conducted on Mar 3-4, 2015 the potential NPDES permit violations noted below were found. Additional violations may be brought to
your attention following a complete review of the inspection report and other available information.  POTENTIAL NPDES PERMIT VIOLATIONS
POTENTIAL INFESTERMIT VIOLATIONS
Charleston WWTF exceeded permit limits for ammonia in December 2014 (average 3.29 mg/L; maximum 6.21 mg/L) and January 2015 (10.5/11.8 mg/L). Seasonal limits are
avg. 2.9 mg/L; max 9.3 mg/L.
REQUESTED ACTION: Within ten (10) days, please describe in writing any actions taken, or planned, to correct the potential violations identified above. Your response will be considered in the determination of
he need for further administrative or legal action. Mail your description of corrective actions to your
nspector at: U.S. Environmental Protection Agency
ENSV/EMWC 901 North 5 <sup>th</sup> Street
Kansas City, Kansas 66101-2907
nspector's printed name: Peter M. Green
nspector's signature:
Notice received by: David Hami Public Works Dis
Date: 03/04/2015

# Green, Pete

From:

David Harris <david@charlestonmo.us>

Sent: To: Monday, March 09, 2015 10:05 AM

Subject:

Green, Pete Corrective action

Pete,

In 2012 the City spent 1.3 million dollars on a nitrification reactor at our lagoon, August 1, 2012 it went on line. Since then we had 3 incidents of over our limits of NH3 (April & May of 2013 ,February 2014, & December 2014 January 2015). The reactor works well as long as the water temperature is above 6°C keeping our levels < .05. We have discussed our possible options with our engineer to how to solve this problem and we are waiting on DNR to give us our new permit before we invest in other treatment options.

Thanks,

David Harris
Public Works Director
City of Charleston, Mo.
PH 573.683.3325
FX 573.683.3297
Cell 573.233.5842



EPA form 3560-3(rev 5-08) Previous editions are obsolete

# United States Environmental Protection Agency Washington, D. C. 20460

Form approved. OBM No. 2040-0057 Approval Expires 8-31-98

# Water Compliance Inspection Report

Section	A: National Data System Codi	ng (i.e., CS)	
Inspection Code NPDES	YY/MM/DD	Inspection type Inspector	Face Type
1 N 2 3 MO 0 0 20 8 / 11	12 15 8364 1	7 18 5 19 2	20 /
·			
	Remarks		•
21			66
Inspection Work Days Facility Self-Monitoring Evaluation Rating	B1 QA	Reserved	
67 69 70	71 N 72	73 74 75	80
	Section B: Facility Data		
Name and location of Facility Inspected (For Industrial users discharging to	POTW, also provide POTW Name and		fective Date
NPDES permit number)		13:00 3/3/15 01	123/2009
Charleston Wastewater Treatment County Rd 215 (Monsanto Road, Person(s) On-site Representative(s)/Title(s)/phones and Fax Number(s)	agoon	Exit Time/ date Permit ex	xpiration Date 22/2014
County Rd 215 (Monsanto Road,	Charleston, MO 63834	10:00 3/4/15 01,	122/2014
		Other Facility dates	
David Harris, Public Works Dire	etor		
•		·	
Name address of Responsible official/ title/Phone/Fax Number			
Richard Goode, City Manager			
	Contacted		
	yes No	19.	<del></del>
Section C: Areas Evalua	ted during Inspection (Check	only those areas evaluated)	
Permit Flow Measu	rement Operations & M	laintenance CSO/SSO (Sewe	r overflow)
Records/ Reports Self-Monitor	ng Program Sludge Handlin	g/Disposal Pollution Prevent	ion
Facility site Review Compliance	Schedules Pretreatment	Multimedia	
Effluent/Receiving Waters Laboratory	Storm Water	Other	
Section D: Summary of Findings/ Com	ments (Attach additional sheet	s of narrative and checklists as r	necessary)
,			
			,
,			
			•
Name(s) and signature(s) of Inspector(s)	Agency/ Office/ Phone and Fax Nu	mhare	Date
Name(s) and signature(s) of mspector(s)	Agency/ Office/ Phone and Fax Nul	nibels	Date
D4 - 0	0.0 001 7-10	<u>C</u>	12646
Peter Green	913-551-7343 1	Tax x 9343	03/04/15
Attrib Cheen			
*			
Signature of Management QA Reviewer	Agency/ Office/ Phone and Fax Nu	mbers	Date

		· ·	- 10 m -
Section F thru L: Complete on all in sections, as appropriate. N/A	Not Applicable	Permit No. <b>Mo- グ</b> 12 <b>の グ</b>	01
Section F: Facility and Permit Background	Control of the Contro	100 71077	9 /
ADDRESS OF PERMITTEE IF DIFFERENT FROM FACILITY (Including City, County and ZIP code)	DATE OF LAST PREVIOUS INVISTIGATION BY EPA/STATE	06/12/2013	MDNR
City of Charleston	FINDINGS: 1. Ft station	s: values m	ed to be
City of Charleston 204 N Main	exercised per	radically	
Charleston, Mo 63834		· vaccany	
Charleston, 1010 63834	· ·		
		,	
Section C. Because on	od Danasta		· · · · · · · · · · · · · · · · · · ·
Section G: Records ar	· · · · · · · · · · · · · · · · · · ·	<del></del>	<del> </del>
RECORDS AND REPORTS MAINTAINED AS REQUIREDBY PERMIT.  (a) ADEQUET RECORDS MAINTAINED OF:	☑YES □ NO □ N/A (further e	xplanation attached	
(i) SAMPLING DATE, TIME, EXACT LOCATION			DYES □ NO □ N/A
(ii) ANALYSIS DATE, TIME			EXES   NO   N/A
(iii) INDIVIDUAL PERFORMING ANALYSIS			EYES   NO   N/A
(iv) ANALYTICAL METHODS/TECHNIQUES USED			GYES NO NA
(v) ANALYTICAL RESULTS ( e.g., consistent with self monitoring rep	ort data)	<del></del>	EYES   NO   N/A
(b) MONITORING RECORDS (e.g. flow, pH, DO, etc) MAINTAINED FO ORIGNAL STRIP CHART RECORDINGS (e.g. continuous monitoring in	R A MINIMUM OF THREE YEARS INC		© YES □ NO □ N/A
(c) LABEQUIPMENT CALIBRATION AND MAINTENANCE REDORDS I		ince records).	YES NO NA
(d) FACILITY OPERATING RECORDS KEPT INCLUDING OPERATING		T	☑YES □ NO □ N/A
(e) QUALITY ASSURANCE RECORDS KEPT			☐ YES ☐ NO ☐ NA
(f) RECORDS MAINTAINED OF MAJOR CONTRIBUTING INDUSTRIES USING PUBLICALLY OWEND TREATMENT WORKS	6 (and their compliance status)		□ YES □ NO ŒÑA
Section H: Permit Verification			
INSPECTION OBSERVATION VERIFY THE PERMIT	☐YES ☐ NO ☐ N/A (further exp	lanation attached	<del></del> )
(a) CORRECT NAME AND MAILING ADDRESS OF PERMITTEE			EYES INO IN/A
	a reactor in 08/2012		☐ YES ☑ NO ☐ N/A
(c) PRINCIPAL PRODUCT(C) AND PRODUCTION RATE CONFORM V	<del></del>	APPLICATION	☐ YES ☐ NO 12-N/A
(d) TREATMENT PROCESSES ARE AS DESCRIBED IN PERMIT APP	<del></del>	· · · · · · · · · · · · · · · · · · ·	BYES DNO DN/A
(e) NOTIFICATION GIVEN TO EPA/STATE OF NEW, DIFFERENT OR	INCREASED DISCHARGES		☐ YES ☐ NO Œ-KIA
(f) ACCURATE RECORDS OF RAW WATER VOLUME MAINTAINED			☑YES □ NO □ N/A
(g) NUMBER AND LOCATION OF DISCHARGE POINTS ARE AS DESC	CRIBED IN PERMIT		©YES □ NO □ N/A
(h) CORRECT NAME AND LOCATION OF RECEIVING WATERS			□ YES □ NO □ N/A
(I) ALL DISCHARGES ARE PERMITTED			PYES □ NO □ N/A
Section I: Operation and Maintenance			
(a) STANDBY POWER OR OTHER EQUIVALENT PROVISIONS PROV	<del></del>		YES PNO NA
(b) ADEQUATE ALARM SYSTEM FOR POWER EQUIPMENT FAILURE	<del></del>		®YES □ NO □ N/A
(c) REPORTS ON ALTERNATE SOURCE OF POWER SENT TO EPA/S	STATE AS REQUIRED BY PERMIT.		□ YES □ NO 12-Ñ/A
(d) SLUDGE AND SOLIDS ADEQUATELY DISPOSED			☐ YES ☐ NO ☐ N/A
(e) ALL TREATMENT UNITS IN SERVICE (f) CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTING ENGINEER RETAINED OR ENGINEER RETAINED OR ENGINEER RETAINED OR ENGINEER RETAINED OR ENGINEER RETAINED OR ENGINEER RETAINED OR ENGINEER RETAINED OR ENGINEER RETAINED OR ENGINEER RETAINED OR ENGINEER RETAINED OR ENGINEER RETAINED OR ENGINEER RETAINED OR ENGINEER RETAINED OR ENGINEER RETAINED OR ENGINEER RETAINED OR ENGINEER RETAINED OR ENGINEER RETAINED OR ENGINEER RETAINED OR ENGINEER RETAINED ENGINE RETAINED ENGINE RETAINED ENGINE RETAINED ENGINE RETAINED ENGINE RETAINED ENGINE RETAI	IL TATION ON OBERATION AND MAIL	NITENIANCE	©YES □ NO □ N/A
PROBLEMS.	DETATION ON OFERATION AND WAI	NTENANCE	©YES □ NO □ N/A
(g) QUALIFIED OPERATING STAFF PROVIDED			ØYES □ NO □ N/A
(h) ESTABLISHED PROCEDURES AVAILABLE FOR TRAINING NEW (			©YES ⊡'NO □ N/A
(I) FILES MAINTAINED ON SPARE PARTS INVENTORY, MAJOR EQU AND PARTS AND EQUIPMENT SUPPLIERS	MINISTER SPECIFICATIONS,		®YES □ NO □ N/A
(j) INSTRUCTION FILES KEPT FOR OPERATION AND MAINTENANCI	E OF EACH ITEM OF MAJOR EQUIPM	MENT	YES ONO NA

(k) OPERATION AND MAINTENANCE MANUAL MAINTAINED.

(I) SPCC PLAN AVAILABLE

YES DNO DNA

Permit No. Mc	-\$ 12\$\$81
Section J : Compliance Schedules	
PERMITTEE IS MEETING COMPLIANCE SCHEDULE □ YES □ NO ☑ N/A (Further explana	ation attached)
CHECK APPROPRIATE PHASE(S)	s,
(A)☐ THE PERMITTEE HAS OBTAINED THE NECESSARY APPROVALS FROM THE APPROPRIATE AUTHORITIES TO BE	SIN CONSTRUCTION.
(B)☐ PROPER AGREEMENT HAS BEEN MADE FOR FINANCING (mortgagee commitments, grants, etc.)	
(C)□ CONTRACTS FOR ENGINEERING SERVICES HAVE BEEN EXECUTED.	·
(D)□ DESIGN PLANS AND SPECIFICATIONS HAVE BEEN COMPLETED.	
(E)□ CONSTRUCTION HAS COMMENCED.	
(F)□ CONSTRUCTION AND/OR EQUIPMENT ACQUISITION IS ON SCHEDULE.	
(G)□ CONSTRUCTION HAS BEEN COMPLETED	
(H)□ START UP HAS COMMENCED.	
( I )□ THE PERMITTEE HAS REQUESTED AND EXTENSION OF TIME.	
Section K: Self Monitoring Program	
Part 1 – Flow measurement (further explanation attached)	
PERMITTEE FLOW MEASUREMENT MEETS THE REQUIREMENTS AND INTENT OF THE PERMIT.  Details:	© YES □ NO □ N/A
(a) PRIMARY MEASURING DEVICE PROPERLY INSTALLED.	☐ YES ☐ NO ☐ N/A
TYPE OF DEVICE: DEWEIR   PARSHALL FLUME   MAGMETER   VENTURI METER   OTHER (specify	
(b) CALIBRATION FREQUENCY ADEQUATE. (date of last calibration)	Ø∕YES □ NO □ N/A
(c) primary FLOW measuring device properly OPERATED AND MAINTAINED	®YES □ NO □ N/A
(d) SECONDARY INSTRUMENTS (totalizers, recorders, etc.) PROPERLY OPERATED AND MAINTAINED	D YES □ NO □ N/A
(e) FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGES OF FLOW RATES.	CYES ONO NA
Part 2 – Sampling (further explanation attached)	
PERMITTEE SAMPLING MEETS THE REQUIREMENTS AND INTENT OF THE PERMIT.  Details:	☐YES □ NO □ N/A
(a) LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES.	EYES   NO   N/A
(b) PARAMETERS AND SAMPLING FREQUENCY AGREE WITH PERMIT.	ØYES □ NO □ N/A
(c) PERMITTEE IS USING METHODS OF SAMPLING AGREE WITH PERMIT	☑YES □ NO □ N/A
IF NO: ☐ GRAB ☐ MANUAL COMPOSITE ☐ AUTOMATIC COMPOSITE (FREQUENCY	
(d) SAMPLE COLLECTION PROCEDURES ARE ADEQUATE.	© YES □ NO □ N/A
(I) SAMPLES REFRIGERATED DURING COMPOSITION	☐ YES ☐ NO DANA
(II) PROPER PRESERVATION TECHNIQUES USED	© YES □ NO □ N/A
(III) FLOW PROPORTIONED SAMPLES OBTAINED WHERE REQUIRED BY PERMIT	☐ YES ☐ NO 12/N/A
(IV) SAMPLES HOLDING TIMES PRIOR TO ANALYSIS IN CONFORMANCE WITH 40 CFR 136.3	□ YES □ NO □ N/A
(e) MONITORING AND ANALYSIS BEING PERFORMED MORE FREQUENTLY THAN REQUIRED BY PERMIT	☐ YES 12/NO ☐ N/A
(f) IF (e) IS YES, RESULTS ARE REPOTED IN PERMITTE'S SELF MONITORING REPORT.	☐ YES ☐ NO TD-KI/A
Part 3 – Laboratory (further explanation attached)  PERMITTEE LABORATORY PROCEDURES MEET THE REQUIREMENTS AND INTENT OF THE PERMIT.  Details:	□YES □ NO □ N/A
(a) EPA approved analytical testing procedures used. (40CFR 136.3)	© YES □ NO □ N/A
(B) IF ALTERNATIVE ANALYTICAL PROCEDURES ARE USED. PROPER APPROVAL HAS BEEN OBTAINED.	□ YES □ NO DANTA
(C) PARAMETERS OTHER THAN THOSE REQUIRED BY THE PERMIT ARE ANALYZED	□ YES TANO □ N/A
(D) SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT.	☐ YES ☐ NO @ N/A
(E) QUALITY CONTROL PROCEDURES USED.	☐ YES ☐ NO ₽/Ñ/A
(E) QUALITY CONTROL PROCEDURES USED.  (F) DUPLICATE SAMPLES ARE ANALYZED% OF TIME.	☐ YES ☐ NO ☑-Ñ/A
(G) SPIKED SAMPLES ARE USED% OF TIME.	☐ YES ☐ NO ₢₽-N/A
(H) COMMERCIAL LABORATORY USED.	Ø∕YES □ NO Ø⁄N/A
(1) COMMERCIAL LABORATORY STATE CERTIFIED.  LAB NAME Environmental Analysis South	ÆYES □ NO □ N/A
LAB ADDRESS Jackson, MD	
DECIDENCE OF THE PROPERTY OF T	PAGE 3 OF 4

Section L : Effluent	t/ Receiving Water	Observation (Fu	irther explanation attac	ched)	- St. Cracks Carrie 1. Harris 22.	nit No. Moø 1200	1 47 87
OUTFALL NO.	OIL SHEEN	GREASE	TURBIDITY	VISIBLE FOAM	VISIBLE FLOAT SOL	COLOR	OTHER
Influent	None	None	moderate V. slight	None	None	It. brn.	4. 8. 4
Outfall 001	None	None	v. slight	None	None.	clear	
		•				9	
		. • .			Ç .		
				•			· · · · · · · · · · · · · · · · · · ·
·							
			d N Complete as Appro		g Inspections)		
ection M: Samplir	ng Inspection Proc	edures and Obse	rvations (further expla	anation attached	)_		···
` /	MPLES OBTAINED			AMPLE SPLIT WIT			. ••
(b) ☐ COMPOSI	TE OBTAINED		(f) La Cl	HAIN OF CUSTOD	Y EMPLOYED		
(c)□ FLOW PRO	OPORTIONED SAM	//PLE	(g)□ S	SAMPLE OBTAINE	D FROM FACILITY	SAMPLING DEVICE	
(d)□ AUTOMAT	IC SAMPLER USE	D - Influent					
			•	•	•		
COMPOSITING	FREQUENCY	30 min x 1	00 mL PRE	SERVATION	2504 for N	1Hz, HCI for	FOG.
		G COMPOSITING:	ØYES □ NO □ N/A	(1ced)			
SAMPLE REPRE							
DISCHARGE	ESENTATIVE OF V	OLUME AND NAT	URE OF		•		
DISCHARGE	ESENTATIVE OF V	OLUME AND NAT	URE OF				·
DISCHARGE	ESENTATIVE OF V	OLUME AND NAT	URE OF				
	on System and Sa	Yes					
ection N: Collecti	on System and Sa	اروخ nitary Sewer Over	rflow (SSOs)		- 4		
ection N: Collection	on System and Sa	nitary Sewer Over	rflow (SSOs) and phone number)		Who answered t	the following Questi	
ection N: Collection  Who is responsible  David	on System and Sa le for the collectio	nitary Sewer Over	rflow (SSOs) and phone number)	?	Who answered to	the following Questi	ons:
Vho is responsible  David  What is your typic low many miles of the average of th	on System and Same for the collection of sanitary sewer of sanitary sewer ge age of the sanitary corganic overloads SINCE LAST INSPERMENT responses to	nitary Sewer Over n system (name ement budget for lines are in the colines are cleaned itary sewer lines' experienced. ECTION. o complaints for several experiences are complaints for several experienced.	and phone number) the collection system ollection system?	? m? \$ <u>wastewa</u> <u>35</u> miles miles ars Some do	Who answered to  David  the operating	the following Questi	ons:
Vho is responsible  David  Vhat is your typic low many miles of the average of th	on System and Same for the collection  Herris, Total capital improve of sanitary sewer of sanitary sewer ge age of the sanitary corganic overloads SINCE LAST INSPE	nitary Sewer Over n system (name ement budget for lines are in the colines are cleaned itary sewer lines' experienced. ECTION. o complaints for several experiences are complaints for several experienced.	rflow (SSOs)  and phone number)  the collection system collection system? in a typical year? year year YES arNO	? m? \$ <u>wastewa</u> <u>35</u> miles miles ars Some do	Who answered to  David  the operating	the following Questi	ons:
Vho is responsible  David  Vhat is your typice How many miles of H	on System and Same for the collection  Harris, The collection of sanitary sewer of sanitary sewer ge age of the sanitary sewer or organic overloads SINCE LAST INSPERMENT responses the Atlandament of the collection of the sanitary sewer ge age of the sanitary sewer ge age of the sanitary sewer ge age of the sanitary sewer ge age of the sanitary sewer se	mitary Sewer Over n system (name of the content budget for lines are in the collines are cleaned itary sewer lines of experienced. ECTION. o complaints for sexpenses of the complaints for se	rflow (SSOs)  and phone number)  the collection system ollection system? I in a typical year? year  YES INO Sewer back-ups, sev	n? \$ <u>wastewa</u> 35 miles miles ars some da vage leaks, over	Who answered to David te to ~1900 flows, etc.?	the following Questi Harris budget no #	ons: 950K—# 97
who is responsible  David  What is your typic low many miles of low many miles of low many miles of low many miles of low many miles of low many by Hydraulic and/o low do you docur	on System and Same for the collection  Harris, Francis, F	nitary Sewer Over n system (name programment budget for lines are in the collines are cleaned itary sewer lines experienced. ECTION. o complaints for separate of the collines of the collection	rflow (SSOs)  and phone number)  the collection system collection system? in a typical year? year year YES arNO	?  m? \$_wastewa 35 miles miles ars Some do  wage leaks, over	Who answered to David te to ~1900 flows, etc.?	the following Questi Harris budget w #	ons: 950K—# 97
Who is responsible  David  What is your typic low many miles of low many miles of low many miles of low many miles of low many miles of low many by BYPASSING Show do you docur	on System and Same for the collection  Harris, Francis, F	nitary Sewer Over n system (name programment budget for lines are in the collines are cleaned itary sewer lines experienced. ECTION. o complaints for separate of the collines of the collection	the collection system ollection system? year yES IPNO sewer back-ups, several to in a year? year year year year year year year year	?  m? \$_wastewa 35 miles miles ars Some do  wage leaks, over	Who answered to David the operating to 1900 flows, etc.?	the following Questi Harris budget w #	ons: 950K—# 97
Power any basem to your have any basem to you have any of the work	on System and Same for the collection  Harris, Francis, F	nitary Sewer Over n system (name programment budget for lines are in the collines are cleaned itary sewer lines experienced. ECTION. o complaints for separate of the collines of the collection	the collection system ollection system? year yES IPNO sewer back-ups, several to in a year? year year year year year year year year	?  m? \$_wastewa 35 miles miles ars Some do  wage leaks, over	Who answered to David the operating to 1900 flows, etc.?	the following Questi Harris budget w #	ons: 950K—# 97
Who is responsible  David  What is your typic low many miles of low many miles of low many miles of low many miles of low many miles of low many by BYPASSING Show do you docur	on System and Same for the collection  Harris, Francis, F	nitary Sewer Over n system (name programment budget for lines are in the collines are cleaned itary sewer lines experienced. ECTION. o complaints for separate of the collines of the collection	the collection system ollection system? year yES IPNO sewer back-ups, several to in a year? year year year year year year year year	?  m? \$_wastewa 35 miles miles ars Some do  wage leaks, over	Who answered to David the operating to 1900 flows, etc.?	the following Questi Harris budget w #	ons: 950K—# 97
who is responsible  David  What is your typic low many miles of the averaging Hydraulic and/on the averaging Hydraulic and/on the averaging Hydraulic and/on the averaging Hydraulic and/on the averaging Hydraulic and/on the averaging Hydraulic and/on the averaging Hydraulic and/on the averaging Hydraulic and/on the averaging Hydraulic and/on the averaging Hydraulic and/on the averaging Hydraulic and/on the averaging Hydraulic and/on the averaging Hydraulic and/on the averaging Hydraulic and/on the averaging Hydraulic and Hydrauli	on System and Same for the collection  Harris, Francis, F	nitary Sewer Over n system (name programment budget for lines are in the collines are cleaned itary sewer lines experienced. ECTION. o complaints for separate of the collines of the collection	the collection system ollection system? year yES IPNO sewer back-ups, several to in a year? year year year year year year year year	?  m? \$_wastewa 35 miles miles ars Some do  wage leaks, over	Who answered to David the operating to 1900 flows, etc.?	the following Questi Harris budget w #	ons: 950K—# 97
ho is responsible  David  /hat is your typic ow many miles of ow many miles of hat is the average of Hydraulic and/out own do you docur for which will be a seen of you have any of you report discontinuous for the control of the con	on System and Same for the collection  Harris, Francis, F	nitary Sewer Over n system (name programment budget for lines are in the collines are cleaned itary sewer lines experienced. ECTION. o complaints for separate of the collines of the collection	the collection system ollection system? year yES IPNO sewer back-ups, several to in a year? year year year year year year year year	?  m? \$_wastewa 35 miles miles ars Some do  wage leaks, over	Who answered to David the operating to 1900 flows, etc.?	the following Questi Harris budget w #	ons: 950K—# 97

# STATE OF MISSOURI

# DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



# MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92<sup>nd</sup> Congress) as amended,

Permit No.

MO-0120081

Owner:

City of Charleston

Address:

P.O. Box 216, Charleston, MO 63834

Continuing Authority:

Same as above

Address:

Same as above

Facility Name:

Charleston Wastewater Treatment Lagoon

Facility Address:

County Road 215, Charleston, MO 63834

Legal Description:

NW ¼, SE ¼, Sec. 33, T27N, R16E, Mississippi County

Latitude/Longitude:

+3656265/-08919361

Receiving Stream:

Unnamed tributary to Stevenson Bayou (U)

First Classified Stream and ID:

Stevenson Bayou (C) (03135)

USGS Basin & Sub-watershed No.:

(08020201 - 010001)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

#### FACILITY DESCRIPTION

Outfall #001 - POTW - SIC #4952 - Certified "C" Operator Required

Three (3) cell aerated lagoon/ one (1) cell lagoon/ Weir structure/ sludge is retained in lagoon.

Design population equivalent is 15,000.

Design flow is 1.5 MGD.

Actual flow is 0.9 MGD.

Design sludge production is 225 dry tons/year.

Actual sludge production is 174 dry tons/year.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

January 23, 2009

February 6, 2009

Effective Date

Revised Date

tr archaenna

ose on P. Bindbeutel, Acting Director, Department of Natural Resources

January 22, 2014

**Expiration Date** 

Robert K. Morrison, P.F. Chief, Water Pollution Control Branch

PAGE NUMBER 2 of 12

PERMIT NUMBER MO-0120081

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The interim effluent limitations shall become effective upon issuance and remain in effect until three (3) years after the effective date of this permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
EFFLUENT PARAMETER(S)	011120	DAILY MAXIMUM	WEEKLY AVERAGE	· MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001						
Flow	MGD	*	-	*	Once/week	24 hr. total
Biochemical Oxygen Demand <sub>5</sub> **	mg/L		65	45	Once/week	grab
Total Suspended Solids**	mg/L	·	110	70	Once/week	grab
pH – Units	SU	, ***		***	Once/week	grab
Temperature	°C	*		*	Once/week	grab
Ammonia as N (May 1 – Oct 31) (Nov 1 – April 30)	mg/L	*		*	Once/week Once/week	grab grab
Oil & Grease	mg/L	*		* '	Once/month	grab
Antimony, Total Recoverable	μg/L	*		*	Once/month	grab
Copper, Total Recoverable	μg/L	. *		*	Once/month	grab
Lead, Total Recoverable	μg/L	*	·	*	Once/month	grab
Zinc, Total Recoverable	μg/L ·	*		*	Once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE March 28, 2009. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

# **B. STANDARD CONDITIONS**

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I, II, & III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

MO 780-0010 (8/91)

PAGE NUMBER 3 of 12

PERMIT NUMBER MO-0120081

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The interim effluent limitations shall become effective upon issuance and remain in effect until three (3) years after the effective date of this permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
EFFLUENT PARAMETER(S)	CIVITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001 Cyanide, Amenable to Chlorination	μg/L	* .		*	Once/quarter***	grab
Arsenic, Total Recoverable	μg/L	*		*	Once/quarter***	grab
Beryllium, Total Recoverable	μg/L	* .		*	Once/quarter***	grab
Cadmium, Total Recoverable	μg/L	*		*	Once/quarter***	grab
Chromium (III), Total Recoverable	μg/L	*		*	Once/quarter***	grab
Chromium (VI), Total Recoverable	μg/L	*		*	Once/quarter***	grab
Iron, Total Recoverable	μg/L	*	, ,	*	Once/quarter***	, grab
Mercury, Total Recoverable	μg/L	*	,	*	Once/quarter***	grab
Nickel, Total Recoverable	μg/L	*		*	Once/quarter***	grab
Selenium, Total Recoverable	μg/L	*		*	Once/quarter****	grab
Silver, Total Recoverable	μg/L	*		*	Once/quarter***	grab
Thallium, Total Recoverable	μg/L	*	:	*	Once/quarter***	grab
MONITORING REPORTS SHALL BE SUE DISCHARGE OF FLOATING SOLIDS OR					<u>pril 28, 2009.</u> THERE SI	HALL BE NO
Whole Effluent Toxicity (WET) test	% Survival	See Spe	cial Condition	n #10	Once/year	grab
MONITORING REPORTS SHALL BE SUE	MITTED <u>ANNU</u>	ALLY; THE	FIRST REPOR	T IS DUE <u>Oc</u>	tober 28, 2009.	.,
Total Toxic Organics (Note 1)	μg/L	*		*	Once/permit cycle	grab

MONITORING REPORTS SHALL BE SUBMITTED ONCE PER PERMIT CYCLE; THE FIRST REPORT IS DUE February 28, 2010.

#### **B. STANDARD CONDITIONS**

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I, II, & III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

MO 780-0010 (8/91)

PAGE NUMBER 4 of 12

PERMIT NUMBER MO-0120081

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective three (3) years from the effective date of this permit and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND	LIMITO	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
EFFLUENT PARAMETER(S)	UNITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001						
Flow	MGD	*		*	Once/week	24 hr. total
Biochemical Oxygen Demand <sub>5</sub> **	mg/L		65	45	Once/week	grab
Total Suspended Solids**	mg/L		110	70	Once/week	grab
pH – Units	su	***	'-	***	Once/week	grab
Temperature	°C	*		*	Once/week	grab
Ammonia as N (May 1 – Oct 31) (Nov 1 – April 30)	mg/L	6.6 9.3		1.4 2.9	Once/week Once/week	grab grab
Oil & Grease	mg/L	15		10	Once/month	grab
Antimony, Total Recoverable	mg/L	7.0		3.5	Once/month	grab
Copper, Total Recoverable	μg/L	19		9.5	Once/month	grab
Lead, Total Recoverable	μg/L	9.3		4.7	Once/month	grab
Zinc, Total Recoverable	μg/L	180		89.6	Once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE March 28, 2012. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

# **B. STANDARD CONDITIONS**

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I, II, & III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

MO 780-0010 (8/91)

PAGE NUMBER 5 of 12 PERMIT NUMBER MO-0120081

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective three (3) years from the effective date of this permit and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND	UNITS	FINAL EFFLUENT LIMITATIONS		MONITORING REQUIREMENTS		
EFFLUENT PARAMETER(S)		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001 Cyanide, Amenable to Chlorination	μg/L	*		*	Once/quarter****	grab
Arsenic, Total Recoverable	μg/L	*		*	Once/quarter****	grab
Beryllium, Total Recoverable	μg/L	*		*	Once/quarter***	grab
Cadmium, Total Recoverable	μg/L	*	i	*	Once/quarter****	grab
Chromium (III), Total Recoverable	μg/L	*		*	Once/quarter***	grab
Chromium (VI), Total Recoverable	μg/L	*		*	Once/quarter***	grab
Iron, Total Recoverable	μg/L	*	[s]	*	Once/quarter***	grab
Mercury, Total Recoverable	μg/L	*		*	Once/quarter****	grab
Nickel, Total Recoverable	μg/L	*		*	Once/quarter***	grab
Selenium, Total Recoverable	μg/L	*		*	Once/quarter***	grab
Silver, Total Recoverable	μg/L	*		*	Once/quarter***	grab
Thallium, Total Recoverable	μg/L	*	· ·	*	Once/quarter***	grab
MONITORING REPORTS SHALL BE SUBMI DISCHARGE OF FLOATING SOLIDS OR VIS					pril 28, 2012. THERE SI	HALL BE NO

% Survival See Special Condition #10 Once/year Whole Effluent Toxicity (WET) test grab MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE October 28, 2012. Once/permit μg/L Total Toxic Organics (Note 1) cycle

MONITORING REPORTS SHALL BE SUBMITTED ONCE PER PERMIT CYCLE; THE FIRST REPORT IS DUE February 28, 2010.

# **B. STANDARD CONDITIONS**

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I, II, & III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

MO 780-0010 (8/91)

# EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- Monitoring requirement only.
- This facility is required to meet a removal efficiency, please see Part C Influent Monitoring Requirements.
- pH is measured in pH units and is not to be averaged. The pH is to be maintained at or above 6.0 pH units.

See table below for quarterly sampling:

Sample discharge at least once for the months of:	Report is due:
January, February, March (1st Quarter)	April 28
April, May, June (2nd Quarter)	July 28
July, August, September (3rd Quarter)	October 28
October, November, December (4th Quarter)	January 28

# A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

# Note 1 - Total Toxic Organics:

Acenaphthene Acrolein Acrylonitrile Benzene Benzidine

Carbon Tetrachloride (tetrachloromethane)

Chlorobenzene 1.2.4-trichlorobenzene Hexachlorobenzene 1,2-dichloroethane 1,1,1-trichloroethane Hexachloroethane 1,1-dichloroethane 1,1,2-trichloroethane 1,1,2,2-tetrachloroethane Chloroethane

Bis (2-chloroethyl) ether 2-chloroethyl vinyl ether N-nitrosodi-n-propylamine

Pentachlorophenol

Phenol

Bis (2-ethylhexyl) phthalate Butyl benzyl phthalate Di-n-butyl phthalate

Di-n-octyl phthalate Diethyl phthalate Dimethyl phthalate

1,2-benzanthracene (benzo(a)anthracene) Benzo(a)pyrene (3,4-benzopyrene)

3,4-benzofluoranthene (benzo(b)fluoranthene) 11,12-benzofluoranthene (benzo(k)fluoranthene)

Chrysene Anthracene

1,12-benzoperylene (benzo(ghi)perylene)

Fluorene

2-chloronaphthalene 2,4,6-trichlorophenol Parachlorometa cresol

Chloroform (trichloromethane)

2-chlorophenol 1,2-dichlorobenzene 1.3-dichlorobenzene 1,4-dichorobenzene 3,3-dichlorobenzidine 1,1-dichloroethylene 1,2-trans-dichloroethylene 2,4-dichlorophenol

1,2-dichloropropane (1,3-dichloropropane)

2,4-dimethylphenol 2,4-dinitrotoluene 2,6-dinitrotoluene 1,2-diphenylhydrazine

Ethylbenzene Fluoranthene

4-chlorophenyl phenyl ether 4-bromophenyl phenyl ether Bis (2-chloroisopropyl) ether Bis (2-chloroethoxy) methane

Methylene Chloride (dichloromethane) Methyl Chloride (chloromethane) Methyl bromide (bromomethane) Bromoform (tribromomethane) Dichlorobromomethane Chlorodibromemethane

Hexachlorobutadiene Hexachlorocyclopentadiene

Isophorone Naphthalene Nitrobenzene 2-nitrophenol 4-nitrophenol 2,4-dinitrophenol 4,6-dintro-o-cresol N-nitrosodimethylamine N-nitrosodiphenylamine

Phenanthrene

1,2,5,6-dibenzanthracene (dibenzo(a,h)anthracene)

Indeno (1,2,3-cd) pyrene (2,3-o-phenylene pyrene)

Pyrene

Tetrachloroethylene

Toluene

Trichloroethylene

Vinyl Chloride (chloroethylene)

Aldrin Dieldrin

Chlordane (technical mixture and metabolites)

4,4-DDT

4,4-DDE (p,p-DDX) 4,4-DDD (p,p-TDE) Alpha-endosulfan Beta-endosulfan Endosulfan sulfate

Endrin

Endrin aldehyde Heptachlor

Heptachlor epoxide (BHC hexachlorocyclohexane)

Alpha-BHC Beta-BHC Gamma-BHC

Delta-BHC (PCB polychlorinated biphenyls)

PCB-1242 (Arochlor 1242) PCB-1254 (Arochlor 1254) PCB-1221 (Arochlor 1221) PCB-1232 (Arochlor 1232) PCB-1248 (Arochlor 1248) PCB-1260 (Arochlor 1260) PCB-1016 (Arochlor 1016)

Toxaphene

# C. INFLUENT MONITORING REQUIREMENTS

PAGE NUMBER 7 of 12

PERMIT NUMBER MO-0120081

The facility is required to meet a removal efficiency of 65% or more. The monitoring requirements shall become effective upon issuance and remain in effect until expiration of the permit. To determine removal efficiencies, the influent wastewater shall be monitored by the permittee as specified below:

SAMPLING LOCATION AND	UNITS	MONITORING REQUIREMENTS				
PARAMETER(S)		MEASUREMENT FREQUENCY	SAMPLE TYPE			
Influent						
Biochemical Oxygen Demands	mg/L	Once/month	grab			
Total Suspended Solids	mg/L	Once/month	grab			

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE March 28, 2009.

MO 780-0010 (8/91)

#### D. SPECIAL CONDITIONS

- 1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
  - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
    - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
    - (2) controls any pollutant not limited in the permit.
  - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
  - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

- 2. All outfalls must be clearly marked in the field.
- Permittee will cease discharge by connection to area-wide wastewater treatment system within 90 days of notice of its availability.
- 4. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
  - (1) One hundred micrograms per liter (100 μg/L);
  - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
  - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application:
  - (4) The level established in Part A of the permit by the Director.
- (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.
- 5. Report as no-discharge when a discharge does not occur during the report period.

#### 6. Water Quality Standards

- (a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
- (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
  - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
  - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
  - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
  - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
  - (5) There shall be no significant human health hazard from incidental contact with the water;
  - (6) There shall be no acute toxicity to livestock or wildlife watering:
  - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
  - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.
- 7. Sludge and Biosolids Use For Domestic Wastewater Treatment Facilities
  - (a) Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.
  - (b) If sludge is not removed by a contract hauler, permittee is authorized to land apply biosolids. Permit Standard Conditions, Part III shall apply to the land application of biosolids. Permittee shall notify the department at least 180 days prior to the planned removal of biosolids. The department may require submittal of a biosolids management plan for department review and approval as determined appropriate on a case-by-case basis.
- 8. The permittee shall comply with any applicable requirements listed in 10 CSR 20-8 and 10 CSR 20-9, unless the facility has received written notification that the Department has approved a modification to the requirements. The monitoring frequencies contained in this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. If a modification of the monitoring frequencies listed in 10 CSR 20-9 is needed, the permittee shall submit a written request to the department for review and, if deemed necessary, approval.
- 9. The permittee shall develop and implement a program for maintenance and repair of the collection system. The recommended guidance is the US EPA's Guide For Evaluating Capacity, Management, Operation, And Maintenance (CMOM) Programs At Sanitary Sewer Collection Systems (Document number EPA 305-B-05-002). The permittee shall submit a report semi-annually in April and October to the Southeast Regional Office with the Discharge and Monitoring reports which address measures taken to locate and eliminate sources of infiltration and inflow into the collection system serving the facility.
- 10. Whole Effluent Toxicity (WET) Test shall be conducted as follows:

	SUMMARY OF WET TESTING FOR THIS PERMIT							
OU	OUTFALL A.E.C. % FREQUENCY SAMPLE TYPE MONTH							
	001	100	Annually	Grab	August			

# 10. WET Test (continued):

(a) Test Schedule and Follow-Up Requirements

- (1) Perform a SINGLE-dilution test in the months and at the frequency specified above. For tests which are successfully passed, submit test results USING THE DEPARTMENT'S WET TEST REPORT FORM #MO-780-1899 along with complete copies of the test reports as received from the laboratory, including copies of chain-of-custody forms within 30 calendar days of availability to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102. If the effluent passes the test, do not repeat the test until the next test period.
  - (a) For discharges of stormwater, samples shall be collected within three hours from when discharge first occurs.

(b) Samples submitted for analysis of stormwater discharges shall be collected as a grab.

- (c) For discharges of non-stormwater, samples shall be collected only when precipitation has not occurred for a period of forty-eight hours prior to sample collection. In no event shall sample collection occur simultaneously with the occurrence of precipitation excepting for stormwater samples.
- (d) A twenty-four hour composite sample shall be submitted for analysis of non-stormwater discharges.
- (e) Upstream receiving water samples, where required, shall be collected upstream from any influence of the effluent where downstream flow is clearly evident.
- (f) Samples submitted for analysis of upstream receiving water may be collected as either a grab or twenty-four-hour composite as appropriate to the nature of the discharge.
- (g) Chemical and physical analysis of the upstream control and effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing that are required to stabilize the sample during shipping.
- (h) Any and all chemical or physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% Effluent concentration in addition to analyses performed upon any other effluent concentration.
- (i) All chemical analyses included in the Missouri Department of Natural Resources WET test report form #MO-780-1899 shall be performed and results shall be recorded in the appropriate field of the report form.
- (j) Where flow-weighted composite sample is required for analysis, the samples shall be composited at the laboratory where the test is to be performed.
- (k) Where in stream testing is required downstream from the discharge, sample collection shall occur immediately below the established Zone of Initial Dilution in conjunction with or immediately following a release or discharge.
- (1) Samples submitted for analysis of downstream receiving water may be collected as either a grab or twenty-four-hour composite as appropriate to the nature of the discharge.
- (m) All instream samples, including downstream samples, shall be tested for toxicity at the 100% concentration in addition to any other assigned AEC for in-stream samples.
- (2) All failing test results along with complete copies of the test reports as received from the laboratory, INCLUDING THOSE TESTS CONDUCTED UNDER CONDITION (3) BELOW, shall be reported to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the availability of the results
- (3) If the effluent fails the test, a multiple dilution test shall be performed for BOTH test species within 30 calendar days and biweekly thereafter (for storm water, tests shall be performed on the next and subsequent storm water discharges as they occur), until one of the following conditions are met:
  - (a) THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.
  - (b) A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.
- (4) Failure of at least two multiple-dilution tests during any period of accelerated monitoring violates the permit narrative requirement for aquatic life protection.
- (5) The permittee shall submit a concise summary of all test results for the test series to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the third failed test.
- (6) Additionally, the following shall apply upon failure of the third MULTIPLE DILUTION test: A toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall contact THE WATER PROTECTION PROGRAM within 14 calendar days from availability of the test results to ascertain as to whether a TIE or TRE is appropriate. The permittee shall submit a plan for conducting a TIE or TRE to the WATER PROTECTION PROGRAM within 60 calendar days of the date of DNR's direction to perform either a TIE or TRE. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.

#### 10. WET Test (continued):

- (7) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule may be established by DNR for this period.
- (8) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and the permittee is proceeding according to a DNR approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in the permit, without the follow-up requirements, will be required during this period.
- (9) When WET test sampling is required to run over one DMR period, each DMR report shall contain a copy of the Department's WET test report form that was generated during the reporting period.
- (10) Submit a concise summary in tabular format of all test results with the annual report.

(b) PASS/FAIL procedure and effluent limitations:

To pass a single-dilution test, mortality observed in the AEC test concentration shall not be significantly different (at the 95% confidence level; p = 0.05) than that observed in the upstream receiving-water control sample. Where upstream receiving water is not available mortality observed in the AEC test concentration shall not be significantly different (at the 95% confidence level; p = 0.05) than that observed in the laboratory control. The appropriate statistical tests of significance shall be consistent with the most current edition of METHODS FOR MEASURING THE ACUTE TOXICITY OF EFFLUENTS AND RECEIVING WATERS TO FRESHWATER AND MARINE ORGANISMS or other Federal guidelines as appropriate or required.

(2) To pass a multiple-dilution test:

- For facilities with a computed percent effluent at the edge of the zone of initial dilution, Allowable Effluent Concentration (AEC) OF 30% OR LESS, the AEC must be less than three-tenths (0.3) of the LC<sub>50</sub> concentration for the most sensitive of the test organisms; **OR**,
- (b) For facilities with an AEC greater than 30% the LC50 concentration must be greater than 100%; AND,
- all effluent concentrations equal to or less than the AEC must be nontoxic. Mortality observed in all effluent concentrations equal to or less than the AEC shall not be significantly different (at the 95% confidence level; p = 0.05) than that observed in the upstream receiving-water control sample. Where upstream receiving water is not available mortality observed in the AEC test concentration shall not be significantly different (at the 95% confidence level; p = 0.05) than that observed in the laboratory control. The appropriate statistical tests of significance shall be consistent with the most current edition of METHODS FOR MEASURING THE ACUTE TOXICITY OF EFFLUENTS AND RECEIVING WATERS TO FRESHWATER AND MARINE ORGANISMS or other federal guidelines as appropriate or required. Failure of one multiple-dilution test may be considered an effluent limit violation.

#### (c) Test Conditions

- (1) Test Type: Acute Static non-renewal.
- (2) All tests, including repeat tests for previous failures, shall include both test species listed below.
- (3) Test species: Ceriodaphnia dubia and Pimephales promelas (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current USEPA guidelines. All test animals shall be cultured as described in the most current edition of <a href="METHODS FOR MEASURING THE ACUTE TOXICITY OF EFFLUENTS AND RECEIVING WATERS TO FRESHWATER AND MARINE ORGANISMS">METHODS FOR MEASURING THE ACUTE TOXICITY OF EFFLUENTS AND RECEIVING WATERS TO FRESHWATER AND MARINE ORGANISMS</a>.
- (4) Test period: 48 hours at the "Acceptable Effluent Concentration" (AEC) specified above.
- When dilutions are required, upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the MDNR upon request.
- (6) Single-dilution tests will be run with:
  - (a) Effluent at the AEC concentration;
  - (b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
  - (c) reconstituted water.
- (7) Multiple-dilution tests will be run with:
  - (a) 100%, 50%, 25%, 12.5%, and 6.25% effluent, unless the AEC is less than 25% effluent, in which case dilutions will be 4 times the AEC, two times the AEC, AEC, ½ AEC and ¼ AEC;
  - (b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
  - (c) reconstituted water.

# 10. WET Test (continued):

- (8) (9)
- If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun. If upstream control mortality exceeds 10%, the entire test will be rerun using reconstituted water as the dilutant.

#### SUMMARY OF TEST METHODOLOGY FOR WHOLE-EFFLUENT TOXICITY TESTS

Whole-effluent-toxicity test required in NPDES permits shall use the following test conditions when performing single or multiple dilution methods. Any future changes in methodology will be supplied to the permittee by the Missouri Department of Natural Resources (MDNR). Unless more stringent methods are specified by the DNR, the procedures shall be consistent with the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms,

Test conditions for Ceriodaphnia dubia:

Test duration:

Temperature:

Light Quality: Photoperiod:

Size of test vessel: Volume of test solution:

Age of test organisms:
No. of animals/test vessel:
No. of replicates/concentration:

No. of organisms/concentration:

Feeding regime: Aeration: Dilution water:

Endpoint:

Test acceptability criterion:

Test conditions for (Pimephales promelas):

Test duration: Temperature:

Light Ouality:

Photoperiod: Size of test vessel:

Volume of test solution: Age of test organisms: No. of animals/test vessel: No. of replicates/concentration:

No. of organisms/concentration:

Feeding regime:

Aeration:

Dilution water:

Endpoint:

Test Acceptability criterion:

481

25 ± 1°C Temperatures shall not deviate by more than 3°C during

the test.

Ambient laboratory illumination

16 h light, 8 h dark 30 mL (minimum) 15 mL (minimum)

<24 h old

5 1

20 (minimum)

None (feed prior to test)

None

Upstream receiving water; if no upstream flow, synthetic water

modified to reflect effluent hardness.

Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream

water was not available at  $p \le 0.05$ ) 90% or greater survival in controls

48 h

25 ± 1°C Temperatures shall not deviate by more than 3°C during

the test.

Ambient laboratory illumination

16 h light/ 8 h dark 250 mL (minimum) 200 mL (minimum) 1-14 days (all same age)

10

4 (minimum) single dilution method 2 (minimum) multiple dilution method 40 (minimum) single dilution method 20 (minimum) multiple dilution method

None (feed prior to test)

None, unless DO concentration falls below 4.0 mg/L; rate should

not exceed 100 bubbles/min.

Upstream receiving water; if no upstream flow, synthetic water

modified to reflect effluent hardness.

Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream

water was not available at  $p \le 0.05$ ) 90% or greater survival in controls

Attachment 11 Page 12 of 30

Charleston WWT Lagoon Page # 1 Fact Sheet Version 11152007

# Missouri Department of Natural Resources FACT SHEET FOR THE PURPOSE OF RENEWAL OF MO-0120081

# CHARLESTON WASTEWATER TREATMENT LAGOON

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollution Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of storm water from certain point sources. All such discharges are unlawful without a permit (Section 301 of the "Clean Water Act"). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (MSOPs) are issued by the Director of the Missouri Department of Natural Resources (department) under an approved program, operating in accordance with federal and state laws (Federal "Clean Water Act" and "Missouri Clean Water Law" Section 644 as amended). MSOPs are issued for a period of five (5) years unless otherwise specified. This operating permit will be issued for a period of five years.

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)2.] a Factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (operating permit) listed below.

Missouri Sta	ite Operating Per	rmit (operating permit)	listed below.	
A Factsheet	is not an enforce	eable part of an operatin	ng permit.	
			ial Facility □; Variance □; Facility □; and/or permit with wi	despread public interest .
Part I – F	acility Inforn	<u>nation</u>		
Facility Typ Facility SIC		OTW 952		
	is a four (4) cell leaves the fourth			ourth cell being facultative. After treated ged from Outfall #001. The design flow for
Application Expiration I Last Inspect	Date: A	eptember 8, 2008 august 22, 2007 anuary 12, 2006	In Compliance ⊠; Non-C	Compliance 🗌
OUTFALL(S)	TABLE:			
OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
-001	2.3	Equivalent to Secondary	Municipal	2.4

#### Outfall #001

Legal Description: NW 1/4, SE 1/4, Sec. 33, T27N, R16E, Mississippi County

Latitude/Longitude: +36562565/-08919361

Receiving Stream: Tributary to Stevenson Bayou (U)
First Classified Stream and ID: Stevenson Bayou I (03135)
USGS Basin & Sub-watershed No.: (08020201 – 010001)

Water Quality History:

TSS effluent violation in April 2008.

Charleston WWT Lagoon Page # 2 Fact Sheet Version 11152007

# Comments:

On August 23, 2002, the department issued the permittee Missouri State Operating Permit number MO-0120081 for a period of five (5) years, per the Missouri Clean Water Law. On January 29, 2007, the department sent correspondence to the permittee and requested that they submit a renewal application for their operating permit; however, the renewal application was not received. On August 22, 2007, the operating permit expired, by its own terms. On February 27, 2008, the department sent correspondence to the permittee requesting that they submit a complete application for renewal for this facility, and on May 1, 2008, the department (Central Office) received the permittee's renewal application. However, the application was incomplete; therefore, on May 5, 2008, the department returned the application to the permittee as being incomplete and requested the application be completed and re-submitted to the department. On September 4, 2008, the department sent correspondence to the permittee requesting the renewal application be completed and submitted to the department. In addition, the September 4, 2008, correspondence informed the permittee they were in violation of the Missouri Clean Water Law and its implementing regulations, as follows:

- Failed to apply for renewal of the Missouri State Operating Permit at least 180 day before expiration, in violation of RSMo §§ 644.051.10 & 644.076.1; and 10 CSR 20-6.010(5)I; and
- Since August 22, 2007, operated, used or maintained a water contaminant source, which discharges to waters of the state, without an operating permit, in violation of RSMo §§ 644.051.2 & 644.076.1; and 10 CSR 20-6.010(1)(A) and 10 CSR 20-6.010(5)(A).

Finally the September 4, 2008, letter informed the permittee that failure to re-submit the operating permit within ten (10) days receipt of the correspondence, would leave no other option but to refer the matter to the department's Compliance and Enforcement Section. On September 8, 2008, the department received the permittee's renewal application; however, the permittee failed to supply the department with Part D – EXPANDED EFFLUENT TESTING DATA; Section 13.00.

Due to the failure and refusal of the permittee to supply the department with this information, which is required for all facilities that have a design flow over 1.0 MGD or a pretreatment program, staff drafting this operating permit has no other option but to assume via best professional judgment that effluent from this facility contains the toxics listed in Section 13.00 of Form B2, which are as follows: Metals, Cyanide, Phenol, Volatile Organic Compounds, Acid-Extractable Compounds, and Base-Neutral Compounds. Each pollutant or group of pollutants' monitoring requirement or effluent limitation is discussed Part V of this Fact Sheet.

In addition, the department's Pretreatment Coordinator informed staff drafting this operating permit that this facility does accept Industrial Wastewater from the Gates Corporation [40 CFR 403 General Pretreatment Standards], which was affirmed by Gates Corporation staff on September 12, 2008. The pollutants of concern from the Gates facility that discharges to this facility are Oil & Grease, COD, BOD<sub>5</sub>, Zinc, TSS, Copper, Lead, Antimony. The City's application indicated that the Charleston WWT Lagoon does not accept industrial process wastewater.

• Failed to inform the department that the facility accepts industrial pretreated wastewater, in violation of RSMo §644.076.

For the toxics listed above regarding the industrial process wastewater, the department will give interim monitoring and final effluent limitations for the appropriate parameters.

Referral of this matter to the Department's Compliance and Enforcement Section for the above cited violations is still under review.

# Part II - Operator Certification Requirements

As per [10 CSR 20-6.010(8) Terms and Conditions of a Permit], permittees shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions and regulations. Operators or supervisors of operations at regulated wastewater treatment facilities shall be certified in accordance with [10 CSR 20-9.020(2)] and any other applicable state law or regulation. As per [10 CSR 20-9.010(2)(A)], requirements for operation by certified personnel shall apply to all wastewater treatment systems, if applicable, as listed below:

Check boxes below that are applicable to the facility;

	Owned or operated by or for:	
	• Municipalities	lacktriangle
	Public Sewer District:	
٠	• County	
	Public Water Supply Districts:	
	• Private sewer company regulated by the Public Service Commission:	
	State or Federal agencies:	

Charleston WWT Lagoon Page # 3 Fact Sheet Version 11152007

#### PART II - CONTINUED:

Each of the above entities are only applicable if they have a Population Equivalent greater than two hundred (200) and/or fifty (50) or more service connections.

This facility currently requires an operator with a "C" Certification Level. Please see **Appendix A** – **Classification Worksheet**. Modifications made to the wastewater treatment facility may cause the classification to be modified.

Operator's Name:

David Harris

Certification Number: Certification Level: 2932 A

# Part III - Receiving Stream Information

#### APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

As per Missouri's Effluent Regulations [10 CSR 20-7.015], the waters of the state are divided into the below listed seven (7) categories. Each category lists effluent limitations for specific parameters, which are presented in each outfall's Effluent Limitation Table and further discussed in the Derivation & Discussion of Limits section.

Missouri or Mississippi River [10 CSR 20-7.015(2)]:	
Lake or Reservoir [10 CSR 20-7.015(3)]:	
Losing [10 CSR 20-7.015(4)]:	
Metropolitan No-Discharge [10 CSR 20-7.015(5)]:	
Special Stream [10 CSR 20-7.015(6)]:	
Subsurface Water [10 CSR 20-7.015(7)]:	
All Other Waters [10 CSR 20-7.015(8)]:	$\boxtimes$

10 CSR 20-7.031 Missouri Water Quality Standards, the department defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1<sup>st</sup> classified receiving stream's beneficial water uses to be maintained are located in the Receiving Stream Table located below in accordance with [10 CSR 20-7.031(3)].

RECEIVING STREAM(S) TABLE:

WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	8-Digit HUC	EDU**
Tributary to Stevenson Bayou	U		General Criteria	08020201	MS Alluvial/ St. Johns
Stevenson Bayou	С	03135	LWW, AQL, WBC***	08020201	Bayou

<sup>\* -</sup> Irrigation (IRR), Livestock & Wildlife Watering (LWW), Protection of Warm Water Aquatic Life and Human Health-Fish Consumption (AQL), Cool Water Fishery (CLF), Cold Water Fishery (CDF), Whole Body Contact Recreation (WBC), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Industrial (IND), Groundwater (GRW).

RECEIVING STREAM(S) LOW-FLOW VALUES TABLE:

RECEIVING STREAM (U, C, P)	. Low-Flow Values (CFS)			
RECEIVING STREAM (O, C, I)	1Q10	7Q10	30Q10	
Tributary to Stevenson Bayou (U)	0.0	0.0	0.0	

# MIXING CONSIDERATIONS TABLE:

Mixing Zone: Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(a)].

Zone of Initial Dilution: Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(b)].

<sup>\*\* -</sup> Ecological Drainage Unit

<sup>\*\*\* -</sup> UAA conducted in July 2005 and the WBCR was approved in September 2005.

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#### **RECEIVING STREAM MONITORING REQUIREMENTS:**

Receiving stream monitoring was required in the previous expired operating permit. It was required at the confluence of Outfall #001 and the receiving stream, above the confluence, and ¼ mile downstream of the confluence. This requirement is being removed from the permit due to the fact that Mixing Considerations do not apply to Unclassified Tributary. This permit will not contain receiving steam monitoring requirements.

## Part IV - Rationale and Derivation of Effluent Limitations & Permit Conditions

# **ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:**

As per [10 CSR 20-7.015(4)(A)], discharges to losing streams shall be permitted only after other alternatives including land application, discharges to a gaining stream and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.

# Not Applicable ⊠:

The facility does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(N)], or is an existing facility.

#### ANTI-BACKSLIDING:

A provision in the Federal Regulations [CWA §303(d)(4); CWA §402I; 40 CFR Part 122.44(I)] that requires a reissued permit to be as stringent as the previous permit with some exceptions.

🖂 - All limits in this Factsheet are at least as protective as those previously established; therefore, backsliding does not apply.

#### ANTIDEGRADATION:

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(2)], the department is to document by means of Antidegradation Review that the use of a water body's available assimilative capacity is justified. Degradation is justified by documenting the socio-economic importance of a discharging activity after determining the necessity of the discharge.

□ - Renewal no degradation proposed and no further review necessary.

#### BIO-SOLIDS, SLUDGE, & SEWAGE SLUDGE:

Bio-solids are solid materials resulting from wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sludge is any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effect. Sewage sludge is solids, semi-solids, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works.

Sludge is retained in the lagoon.

# COMPLIANCE AND ENFORCEMENT:

Enforcement is the action taken by the Water Protection Program (WPP) to bring an entity into compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the WPP is to resolve violations and return the entity to compliance.

#### Not Applicable 🔯:

The permittee/facility is not currently under Water Protection Program enforcement action.

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#### PRETREATMENT PROGRAM:

The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a Publicly Owned Treatment Works [40 CFR Part 403.3(q)].

Pretreatment programs are required at any POTW (or combination of POTW operated by the same authority) and/or municipality with a total design flow greater than 5.0 MGD and receiving industrial wastes that interfere with or pass through the treatment works or are otherwise subject to the pretreatment standards. Pretreatment programs can also be required at POTWs/municipals with a design flow less than 5.0 MGD if needed to prevent interference with operations or pass through.

Several special conditions pertaining to the permittee's pretreatment program may be included in the permit, and are as follows:

- Implementation and enforcement of the program,
- Annual pretreatment report submittal,
- Submittal of list of industrial users,
- Technical evaluation of need to establish local limitations, and
- Submittal of the results of the evaluation

Not Applicable ⊠;

The permittee, at this time, is not required to have a Pretreatment Program or does not have an approved pretreatment program.

#### REASONABLE POTENTIAL ANALYSIS (RPA):

Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above narrative or numeric water quality standard.

Applicable ⊠;

A RPA was conducted on Total Ammonia as Nitrogen, please see APPENDIX B - RPA RESULTS.

#### REMOVAL EFFICIENCY:

Removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD $_5$ ) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals. Please see the United States Environmental Protection Agency's (EPA) website for interpretation of percent removal requirements for National Pollutant Discharge Elimination System Permit Application Requirements for Publicly Owned Treatment Works and Other Treatment Works Treating Domestic Sewage @ <a href="www.epa.gov/fedrgstr/EPA-WATER/1999/August/Day-04/w18866.htm">www.epa.gov/fedrgstr/EPA-WATER/1999/August/Day-04/w18866.htm</a>.

Applicable X:

Equivalent to Secondary Treatment is 65% removal [40 CFR Part 133.105(a)(3) & (b)(3)].

#### SANITARY SEWER OVERFLOWS (SSOS), AND INFLOW & INFILTRATION (I&I):

Collection systems are a critical element in the successful performance of the wastewater treatment process. Under certain conditions, poorly designed, built, managed, operated, and/or maintained systems can pose risks to public health, the environment, or both. Causes of SSOs include, but are not limited to, the following: high levels of I&I during wet weather; blockages; structural, mechanical, or electrical failures; collapsed or broken sewer pipes; insufficient conveyance capacity; and vandalism. Effective and continuous management, operation, and maintenance, as well as ensuring adequate capacity and rehabilitation when necessary are critical to maintaining collection system capacity and performance while extending the life of the system.

Applicable ⊠;

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The permittee is required to develop or implement a program for maintenance and repair of the collection system and shall be required in this operating permit by either means of a Special Condition or Schedule of Compliance.

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#### SCHEDULE OF COMPLIANCE (SOC):

A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit.

Not Applicable ⊠;

This permit does not contain a SOC.

#### STORM WATER POLLUTION PREVENTION PLAN (SWPPP):

A plan to schedule activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. The plan may include, but is not limited to, treatment requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Not Applicable □;

At this time, the permittee is not required to develop and implement a SWPPP.

#### VARIANCE:

As per the Missouri Clean Water Law § 644.061.4, variances shall be granted for such period of time and under such terms and conditions as shall be specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law §§644.006 to 644.141 or any standard, rule or regulation promulgated pursuant to Missouri Clean Water Law §§644.006 to 644.141.

Not Applicable ⊠;

This operating permit is not drafted under premises of a petition for variance.

#### WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:

As per [10 CSR 20-2.010(78)], the amount of pollutant each discharger is allowed by the department to release into a given stream after the department has determined total amount of pollutant that may be discharged into that stream without endangering its water quality.

Applicable X;

Wasteload allocations were calculated where applicable using water quality criteria or water quality model results and the dilution equation below:

$$C = \frac{(Cs \times Qs) + (Ce \times Qe)}{(Qe + Qs)}$$
 (EPA/505/2-90-001, Section 4.5.5)

Where C = downstream concentration

Cs = upstream concentration

Qs = upstream flow

Ce = effluent concentration

Qe = effluent flow

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow at the edge of the mixing zone (MZ). Acute wasteload allocations were determined using applicable water quality criteria (CMC: criteria maximum concentration) and stream volume of flow at the edge of the zone of initial dilution (ZID).

Water quality based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

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#### WLA MODELING:

There are two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs). If TBELs do not provide adequate protection for the receiving waters, then WQBEL must be used.

Not Applicable ⊠;

A WLA study was either not submitted or determined not applicable by department staff.

# WHOLE EFFLUENT TOXICITY (WET) TEST:

A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with or through synergistic responses when mixed with receiving stream water.

Applicable □;

In accordance with the Clean Water Act (CWA) §101(a)(3), requiring WET testing is reasonably appropriate for site-specific Missouri State Operating Permits for discharges to waters of the state issued under the National Pollutant Discharge Elimination System. Furthermore, WET testing is a means by which the department determines that [10 CSR 20-7.031(3)(D, F, & G)] are being met by the permitted facility. In addition to justification for the WET testing, WET tests are required under [10 CSR 20-6.010(8)(A)4] to be performed by specialists who are properly trained in conducting the test according to the methods prescribed by the Federal Government as referenced in [40 CFR Part 136]. WET test will be required by all facilities meeting the following criteria:

$\boxtimes$	Fa	cility	is a	de	signated	Major.
	_					. •

Facility continuously or routinely exceeds its design flow.

Facility (industrial) that alters its production process throughout the year.

Facility handles large quantities of toxic substances, or substances that are toxic in large amounts.

Facility has Water Quality-based Effluent Limitations for toxic substances (other than NH<sub>3</sub>)

 $\Box$  Facility is a municipality or domestic discharger with a Design Flow  $\geq$  22,500 gpd.

Other – please justify.

#### 303(d) LIST & TOTAL MAXIMUM DAILY LOAD (TMDL):

Section 303(d) of the federal Clean Water Act requires that each state identify waters that are not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) list helps state and federal agencies keep track of waters that are impaired but not addressed by normal water pollution control programs.

A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation

Not Applicable ⊠;

This facility does not discharge to a 303(d) listed stream.

# Part V - Effluent Limits Determination

Outfall #001 – Main Facility Outfall

EFFLUENT LIMITATIONS TA	BLE:		<u> </u>				
PARAMETER	Unit	Basis For Limits	Daily Maximum	WEEKLY AVERAGE	MONTHLY AVERAGE	Modified	PREVIOUS PERMIT
FLOW	GPD	1	*		*	NO	
BOD₅	мg/L	1		65	45	NO	
TSS	мg/L	1		110	70	NO	
PН	SU	1	≥6.0		≥6.0	NO	
TEMPERATURE	<u>°</u> C	1/9_	*		*	YES	°F
Ammonia as N (May 1 – Oct 31)	мg/L	2/3/5	6.6		1.4	YES	*/*
Ammonia as N (Nov 1 – Apr 30)	мg/L	2/3/5	9.3	<u> </u>	2.9	YES	*/*
ESCHERICHIA COLI	**	1/2	Please see	Escherichia C	Coli (E. coli) in Section bel		on and Discussion
Oil & Grease (mg/L)	мg/L	11	15		10	YES	***
Cyanide, Amenable to Chlorination	μg/L	9	*		*	YES	***
TOTAL HARDNESS	mg/L	9	*		*	YES	***
Antimony, Total Recoverable	mg/L	9	7.0		3.5	YES	***
Arsenic, Total Recoverable	μg/L	9	*		*	YES	***
Beryllium, Total Recoverable	μg/L	9	*		*	YES	***
CADMIUM, TOTAL RECOVERABLE	μg/L	9	*		*	YES	***
CHROMIUM (III), TOTAL RECOVERABLE	μg/L	9	*		*	YES	***
Chromium (VI), Total Recoverable	μg/L	9	*		*	YES	***
Copper, Total Recoverable	μg/L	9	19		9.5	YES	***
IRON, TOTAL RECOVERABLE	μg/L	9	*		*	YES	***
LEAD, TOTAL RECOVERABLE	μg/L	9	9.3		4.7	YES	***
Mercury, Total Recoverable	μg/L	9	**		*	YES	***
Nickel, Total Recoverable	μg/L	9	*		*	YES	***
Selenium, Total Recoverable	μg/L	9	*		*	YES	***
Silver, Total Recoverable	μg/L	9	*		*	YES	***
THALLIUM, TOTAL RECOVERABLE	μg/L	9	*		*	YES	***
ZINC, TOTAL RECOVERABLE	μg/L	9	180		89.6	YES	***
TOTAL TOXIC ORGANICS	μg/L	9	*		*	YES	***
WHOLE EFFLUENT TOXICITY (WET) TEST	% Survival						
Monitoring Frequency	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

N/A - Not applicable

<sup>\* -</sup> Monitoring requirement only

\*\* - # of colonies/100mL; the Monthly Average for Fecal Coliform is a geometric mean.

<sup>\*\*\* -</sup> Parameter not previously established in previous state operating permit

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Basis for Limitations Codes:

1. State or Federal Regulation/Law

2. Water Quality Standard (includes RPA)

3. Water Ouality Based Effluent Limits

4. Lagoon Policy

5. Ammonia Policy

6. Dissolved Oxygen Policy

7. Antidegradation Policy

8. Water Quality Model

9. Best Professional Judgment

10. TMDL or Permit in lieu of TMDL

11. WET Test Policy

#### OUTFALL #001 - DERIVATION AND DISCUSSION OF LIMITS:

- <u>Flow</u>. In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the department, which may require the submittal of an operating permit modification.
- <u>Biochemical Oxygen Demand (BOD\_5)</u>. Effluent limitations have been retained from previous state operating permit, please see
  the <u>APPLICABLE DESIGNATION OF WATERS OF THE STATE</u> sub-section of the <u>Receiving Stream Information</u>. In 2003 the
  department's Water Quality Monitoring & Assessment Section (WQM&A) conducted a Physical/Chemical, results from this
  survey and receiving stream monitoring indicate that Technology Based Effluent Limitations of Equivalent to Secondary are
  protective of the receiving stream's Water Quality.
- Total Suspended Solids (TSS). Effluent limitations have been retained from previous state operating permit, please see the
  APPLICABLE DESIGNATION OF WATERS OF THE STATE sub-section of the Receiving Stream Information. In 2003 the
  department's Water Quality Monitoring & Assessment Section (WQM&A) conducted a Physical/Chemical, results from this
  survey and receiving stream monitoring indicate that Technology Based Effluent Limitations of Equivalent to Secondary are
  protective of the receiving stream's Water Quality.
- <u>pH</u>. Effluent limitations have been retained from previous state operating permit, please see the APPLICABLE DESIGNATION OF WATERS OF THE STATE sub-section of the <u>Receiving Stream Information</u>.
- Temperature. Monitoring requirement due to the toxicity of Ammonia varies by temperature.
- <u>Total Ammonia Nitrogen</u>. Staff drafting this Fact Sheet and operating permit conducted an RPA for Seasonal Total Ammonia as N, and both seasons were found to have reasonable potential to violate Water Quality Standards for the receiving stream; therefore, limitations are applicable, please see Appendix B- RPA Results. A CV value of 1.486 was calculated for Summer and a CV value of 0.821 was calculated for Winter. Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(4)(B)7.C. & Table B3]. No mixing considerations allowed; therefore, WLA = appropriate criterion.

Season	Temp (°C)	pH (SU)	Total Ammonia Nitrogen CCC (mg N/L)	Total Ammonia Nitrogen CMC (mg N/L)
Summer	26	7.8	1.5	12.1
Winter	6	7.8	3.1	12.1

Summer: May 1 - October 31, Winter: November 1 - April 30.

Staff utilized a modified Feed Forward Reaction decay formula to allow degradation for ammonia prior to reaching the first classified water body:

$$[NH_3N]_t = [NH_3N]_{t=0} *e^{-kt}$$

Where

[NH<sub>3</sub>N]<sub>t</sub> = ammonia concentration at confluence with classified segment.

 $[NH_3N]_{t=0}$  = ammonia concentration at pipe =  $C_e$ 

 $k = NH_3$  oxidation per day  $(k_{1,20})\Xi_1^{(Temp-20)}$ 

 $k_{1,20} = 0.3(day^{-1})$ 

 $\Xi_1$  = temperature correction factor = 1.083

t = time for effluent to travel to first classified segment (in days) = 0.28.

## • Total Ammonia Nitrogen (continued).

Travel time was calculated using site specific data obtained from WQM&A staff who conducted a PC survey in 2003. WQM&A staff indicated that the unclassified tributary was approximately 8 – 10 feet (in wetted width) and approximately 1 foot deep. From this staff calculated that the Cross-Sectional Area of the stream was 4.5 ft<sup>2</sup>.

```
<u>Summer</u>: Temperature = 26°C
Given k = (0.3)(1.083)^{(26-20)} = 0.4841 and t = 0.28 days; e^{-kt} = 0.8714.
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Which means 87.14% of the ammonia concentration remains after leaving the facility and reaching the first classified stream segment.

$$\begin{split} WLA_{chonic} &= (1.5 \text{ mg/L}) \, / \, 0.8714 = 1.72 \text{ mg/L} \\ WLA_{acute} &= (12.1 \text{ mg/L}) \, / \, 0.8714 = 13.89 \text{ mg/L} \end{split}$$

$$\begin{array}{lll} LTA_c = 1.72 \text{ mg/L } (0.557) = \textbf{0.96 mg/L} \\ LTA_c = 13.89 \text{ mg/L } (0.145) = 2.01 \text{ mg/L} \\ \end{array} \\ & [CV = 1.486, 99^{th} \text{ Percentile}, 30 \text{ day average}] \\ MDL = 0.96 \text{ mg/L } (6.88) = 6.6 \text{ mg/L} \\ AML = 0.96 \text{ mg/L } (1.50) = 1.4 \text{ mg/L} \\ \end{array} \\ & [CV = 1.486, 99^{th} \text{ Percentile}] \\ [CV = 1.486, 95^{th} \text{ Percentile}, n = 30] \\ \end{array}$$

Winter: Temperature = 
$$6^{\circ}$$
C Given  $k = (0.3)(1.083)^{(6-20)} = 0.0982$  and  $t = 0.28$  days;  $e^{-kt} = 0.9724$ .

Which means 97.24% of the ammonia concentration remains after leaving the facility and reaching the first classified stream segment.

$$\begin{split} WLA_{chronic} &= (3.1 \text{ mg/L}) \, / \, 0.9724 = 3.19 \text{ mg/L} \\ WLA_{acute} &= (12.1 \text{ mg/L}) \, / \, 0.9724 = 12.44 \text{ mg/L} \\ LTA_c &= 3.19 \text{ mg/L} \, (0.715) = \textbf{2.28 mg/L} \\ LTA_c &= 12.44 \text{ mg/L} \, (0.244) = 3.04 \text{ mg/L} \\ \end{split} \qquad \qquad \begin{split} & [CV = 0.821, \, 99^{th} \text{ Percentile, } 30 \text{ day average]} \\ & [CV = 0.821, \, 99^{th} \text{ Percentile]} \\ \end{split} \qquad \qquad & [CV = 0.821, \, 99^{th} \text{ Percentile]} \\ MDL &= 2.28 \text{ mg/L} \, (4.10) = 9.3 \text{ mg/L} \\ AML &= 2.28 \text{ mg/L} \, (1.26) = 2.9 \text{ mg/L} \\ \end{split} \qquad \qquad \qquad & [CV = 0.821, \, 99^{th} \text{ Percentile]} \\$$

- <u>Escherichia coli (E. coli)</u>. This facility may be required to have E. coli effluent limitations when Missouri adopts the implementation of the E. coli standards, as per [10 CSR 20-7.031(4)(C)].
- Oil & Grease. Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.
- <u>Cyanide, Amenable to Chlorination</u>. The permittee failed to supply the department with Expanded Effluent Data (see Comment Section) for all pollutants/parameters listed in Section 13.00 of their renewal application (Form B2). Due to this, staff is requiring a monitoring requirement only to determine if this facility has Cyanide in their effluent. Upon the next renewal of this operating permit, staff will conduct a reasonable potential to determine if effluent from this facility has a potential or is causing a violation of the receiving stream's Water Quality.

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#### Metals

Effluent limitations for total recoverable metals were developed using methods and procedures outlined in EPA/505/2-90-001 and "The Metals Translator: Guidance For Calculating A Total Recoverable Permit Limit From A Dissolved Criterion" (EPA 823-B-96-007). General warm-water fishery criteria apply and water hardness = 162 mg/L.

Due to the absence of contemporaneous effluent and instream data for total recoverable metals, dissolved metals, hardness, and total suspended solids with which to calculate metals translators, partitioning between the dissolved and absorbed phases was assumed to be minimal (Section 5.7.3, EPA/505/2-90-001). Freshwater criteria conversion factors for dissolved metals were used as the metals translator as recommended in guidance (Section 1.3, 1.5.3, and Table 1, EPA 823-B-96-007). If concurrent site-specific data for total recoverable metals, dissolved metals, hardness, and total suspended solids are provided to the department, partitioning evaluations may be considered and site-specific translators developed.

METAL	Conve	NVERSION FACTORS		
IVIETAL	ACUTE	CHRONIC		
Antimony	N/A	N/A		
Copper	0.960	0.960		
Lead	0.720	0.720		
Zinc	0.978	0.986		

Conversion factor for Pb is hardness dependent. Values calculated using equation found in Section 1.3 of EPA 823-B-96-007 and hardness = 162 mg/L.

- Total Hardness. Monitoring requirement only. The toxicity of metals is effected by the Total Hardness.
- Antimony, Total Recoverable. The permittee failed to supply the department with Expanded Effluent Data (see Comment Section) for all pollutants/parameters listed in Section 13.00 of their renewal application (Form B2). In addition, the permittee failed to notify the department that industrial process wastewater is accepted by the permittee and is discharged from Outfall #001. Antimony is one of the Pollutants of Concern (POC) from the industrial facility, which demonstrates that effluent has a reasonable potential to violate Missouri's Water Quality Standards (no data available). Therefore, effluent limitations are applicable. Protection of Human Health Fish Consumption is 4,300μg/L. Mixing considerations are not applicable; therefore, WLA = criteria.

$$WLA_{HHF} = 4300 \ \mu g/L$$
 
$$LTA_c = 4300(.527) = 2266 \ \mu g/L$$
 
$$[CV = 0.6, 99^{th} \ Percentile]$$
 
$$MDL = 2266(3.11) = 7047 \ \mu g/L$$
 
$$[CV = 0.6, 99^{th} \ Percentile]$$
 
$$[CV = 0.6, 95^{th} \ Percentile]$$
 
$$[CV = 0.6, 95^{th} \ Percentile]$$
 
$$[CV = 0.6, 95^{th} \ Percentile]$$

- Arsenic, Total Recoverable. The permittee failed to supply the department with Expanded Effluent Data (see Comment Section) for all pollutants/parameters listed in Section 13.00 of their renewal application (Form B2). Due to this, staff is requiring a monitoring requirement only to determine if this facility has Arsenic in their effluent. Upon the next renewal of this operating permit, staff will conduct a reasonable potential to determine if effluent from this facility has a potential or is causing a violation of the receiving stream's Water Quality.
- Beryllium, Total Recoverable. The permittee failed to supply the department with Expanded Effluent Data (see Comment Section) for all pollutants/parameters listed in Section 13.00 of their renewal application (Form B2). Due to this, staff is requiring a monitoring requirement only to determine if this facility has Beryllium in their effluent. Upon the next renewal of this operating permit, staff will conduct a reasonable potential to determine if effluent from this facility has a potential or is causing a violation of the receiving stream's Water Quality.
- <u>Cadmium, Total Recoverable</u>. The permittee failed to supply the department with Expanded Effluent Data (see Comment Section) for all pollutants/parameters listed in Section 13.00 of their renewal application (Form B2). Due to this, staff is requiring a monitoring requirement only to determine if this facility has Cadmium in their effluent. Upon the next renewal of this operating permit, staff will conduct a reasonable potential to determine if effluent from this facility has a potential or is causing a violation of the receiving stream's Water Quality.

- <u>Chromium (III), Total Recoverable.</u> The permittee failed to supply the department with Expanded Effluent Data (see Comment Section) for all pollutants/parameters listed in Section 13.00 of their renewal application (Form B2). Due to this, staff is requiring a monitoring requirement only to determine if this facility has Chromium (III) in their effluent. Upon the next renewal of this operating permit, staff will conduct a reasonable potential to determine if effluent from this facility has a potential or is causing a violation of the receiving stream's Water Quality.
- Chromium (VI), Total Recoverable. The permittee failed to supply the department with Expanded Effluent Data (see Comment Section) for all pollutants/parameters listed in Section 13.00 of their renewal application (Form B2). Due to this, staff is requiring a monitoring requirement only to determine if this facility has Chromium (VI) in their effluent. Upon the next renewal of this operating permit, staff will conduct a reasonable potential to determine if effluent from this facility has a potential or is causing a violation of the receiving stream's Water Quality.
- <u>Copper, Total Recoverable</u>. The permittee failed to supply the department with Expanded Effluent Data (see Comment Section) for all pollutants/parameters listed in Section 13.00 of their renewal application (Form B2). In addition, the permittee failed to notify the department that industrial process wastewater is accepted by the permittee and is discharged from Outfall #001. Copper is one of the POC from the industrial facility, which demonstrates that effluent has a reasonable potential to violate Missouri's Water Quality Standards (no data available). Therefore, effluent limitations are applicable. Protection of Aquatic Life CCC = 11 μg/L and CMC = 21 μg/L. Mixing considerations are not applicable; therefore, WLA = criteria.

$$\begin{split} WLA_{chronic} &= 11 \ \mu g/L \ / \ 0.960 = 11.5 \ \mu g/L \\ WLA_{acute} &= 21 \ \mu g/L \ / \ 0.960 = 21.9 \ \mu g/L \\ LTA_c &= 11.5 (.527) = \textbf{6.1} \ \mu g/L \\ LTA_c &= 21.9 (.321) = 7.0 \ \mu g/L \\ \end{split} \qquad \begin{aligned} & [CV = 0.6, \ 99^{th} \ Percentile] \\ [CV = 0.6, \ 99^{th} \ Percentile] \\ MDL &= 6.1 (3.11) = 19 \ \mu g/L \\ AML &= 6.1 (1.55) = 9.5 \ \mu g/L \end{aligned} \qquad \begin{aligned} & [CV = 0.6, \ 99^{th} \ Percentile] \\ [CV = 0.6, \ 95^{th} \ Percentile] \\ [CV = 0.6, \ 95^{th} \ Percentile] \end{aligned}$$

- Iron, Total Recoverable. The permittee failed to supply the department with Expanded Effluent Data (see Comment Section) for all pollutants/parameters listed in Section 13.00 of their renewal application (Form B2). Due to this, staff is requiring a monitoring requirement only to determine if this facility has Iron in their effluent. Upon the next renewal of this operating permit, staff will conduct a reasonable potential to determine if effluent from this facility has a potential or is causing a violation of the receiving stream's Water Quality.
- Lead, Total Recoverable. The permittee failed to supply the department with Expanded Effluent Data (see Comment Section) for all pollutants/parameters listed in Section 13.00 of their renewal application (Form B2). In addition, the permittee failed to notify the department that industrial process wastewater is accepted by the permittee and is discharged from Outfall #001. Lead is one of the POC from the industrial facility, which demonstrates that effluent has a reasonable potential to violate Missouri's Water Quality Standards (no data available). Therefore, effluent limitations are applicable. Protection of Aquatic Life criteria CCC = 4 μg/L and CMC 109 μg/L. Mixing considerations are not applicable; therefore, WLA = criteria.

$$\begin{split} WLA_{chronic} &= 4 \ \mu g/L \ / \ 0.720 = 5.6 \ \mu g/L \\ WLA_{acute} &= 109 \ \mu g/L \ / \ 0.720 = 151.4 \ \mu g/L \end{split}$$
 [CV = 0.6, 99<sup>th</sup> Percentile] 
$$LTA_c = 5.6(.527) = \textbf{3.0} \ \mu g/L$$
 [CV = 0.6, 99<sup>th</sup> Percentile] 
$$LTA_c = 151.4(.321) = 48.6 \ \mu g/L$$
 [CV = 0.6, 99<sup>th</sup> Percentile] 
$$MDL = 3.0(3.11) = 9.3 \ \mu g/L$$
 [CV = 0.6, 99<sup>th</sup> Percentile] 
$$AML = 3.0(1.55) = 4.7 \ \mu g/L$$
 [CV = 0.6, 95<sup>th</sup> Percentile, n = 4]

• Mercury, Total Recoverable. The permittee failed to supply the department with Expanded Effluent Data (see Comment Section) for all pollutants/parameters listed in Section 13.00 of their renewal application (Form B2). Due to this, staff is requiring a monitoring requirement only to determine if this facility has Mercury in their effluent. Upon the next renewal of this operating permit, staff will conduct a reasonable potential to determine if effluent from this facility has a potential or is causing a violation of the receiving stream's Water Quality.

- Nickel, Total Recoverable. The permittee failed to supply the department with Expanded Effluent Data (see Comment Section) for all pollutants/parameters listed in Section 13.00 of their renewal application (Form B2). Due to this, staff is requiring a monitoring requirement only to determine if this facility has Nickel in their effluent. Upon the next renewal of this operating permit, staff will conduct a reasonable potential to determine if effluent from this facility has a potential or is causing a violation of the receiving stream's Water Quality.
- <u>Selenium, Total Recoverable</u>. The permittee failed to supply the department with Expanded Effluent Data (see Comment Section) for all pollutants/parameters listed in Section 13.00 of their renewal application (Form B2). Due to this, staff is requiring a monitoring requirement only to determine if this facility has Selenium in their effluent. Upon the next renewal of this operating permit, staff will conduct a reasonable potential to determine if effluent from this facility has a potential or is causing a violation of the receiving stream's Water Quality.
- <u>Silver, Total Recoverable</u>. The permittee failed to supply the department with Expanded Effluent Data (see Comment Section) for all pollutants/parameters listed in Section 13.00 of their renewal application (Form B2). Due to this, staff is requiring a monitoring requirement only to determine if this facility has Silver in their effluent. Upon the next renewal of this operating permit, staff will conduct a reasonable potential to determine if effluent from this facility has a potential or is causing a violation of the receiving stream's Water Quality.
- Thallium, Total Recoverable. The permittee failed to supply the department with Expanded Effluent Data (see Comment Section) for all pollutants/parameters listed in Section 13.00 of their renewal application (Form B2). Due to this, staff is requiring a monitoring requirement only to determine if this facility has Thallium in their effluent. Upon the next renewal of this operating permit, staff will conduct a reasonable potential to determine if effluent from this facility has a potential or is causing a violation of the receiving stream's Water Quality.
- Zinc, Total Recoverable. The permittee failed to supply the department with Expanded Effluent Data (see Comment Section) for all pollutants/parameters listed in Section 13.00 of their renewal application (Form B2). In addition, the permittee failed to notify the department that industrial process wastewater is accepted by the permittee and is discharged from Outfall #001. Lead is one of the POC from the industrial facility, which demonstrates that effluent has a reasonable potential to violate Missouri's Water Quality Standards (no data available). Therefore, effluent limitations are applicable. Protection of Aquatic Life criteria CCC = 161 μg/L and CMC 176 μg/L. Mixing considerations are not applicable; therefore, WLA = criteria.

$$\begin{split} WLA_{chronic} &= 161 \ \mu g/L \ / \ 0.986 = 163.3 \ \mu g/L \\ WLA_{acute} &= 176 \ \mu g/L \ / \ 0.978 = 180 \ \mu g/L \\ LTA_c &= 163.3 (.527) = 86.1 \ \mu g/L \\ LTA_c &= 180 (.321) = \textbf{57.8} \ \mu g/L \\ \end{split} \qquad \qquad \begin{split} & [CV = 0.6, \, 99^{th} \ Percentile] \\ & [CV = 0.6, \, 99^{th} \ Percentile] \\ MDL &= 57.8 (3.11) = 180 \ \mu g/L \\ AML &= 57.8 (1.55) = 89.6 \ \mu g/L \end{split} \qquad \qquad \end{split} \qquad \qquad \begin{split} & [CV = 0.6, \, 99^{th} \ Percentile] \\ & [CV = 0.6, \, 99^{th} \ Percentile] \\ & [CV = 0.6, \, 95^{th} \ Percentile] \\ & [$$

• Total Toxic Organics (TTO). The permittee failed to supply the department with Expanded Effluent Data (see Comment Section) for all pollutants/parameters listed in Section 13.00 of their renewal application (Form B2). Due to this, staff is requiring a monitoring requirement only to determine if this facility has any of the expanded testing data (as required in Form B2 – Renewal Application) in their effluent. Upon the next renewal of this operating permit, staff will conduct a reasonable potential to determine if effluent from this facility has a potential or is causing a violation of the receiving stream's Water Quality.

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<u>WET Test</u> . WET Testing schedules and intervals are established in accordance with the department's Permit Manual; Section 5.2 Effluent Limits / WET Testing for Compliance Bio-monitoring. It is recommended that WET testing be conducted during the period of lowest stream flow.  ☐ Chronic ☐ Acute
No less than ONCE/PERMIT CYCLE:  Municipality or domestic facility with a design flow ≥ 22,500 gpd, but less than 1.0 MGD.  Other, please justify.
No less than ONCE/YEAR:  ☐ Facility is designated as a Major facility or has a design flow ≥ 1.0 MGD.  ☐ Facility continuously or routinely exceeds their design flow.  ☐ Facility exceeds its design population equivalent (PE) for BOD <sub>5</sub> whether or not its design flow is being exceeded.  ☐ Facility has Water Quality-based effluent limitations for toxic substances (other than NH <sub>3</sub> ).
<ul> <li>No less than TWICE/YEAR:</li> <li>☐ Facility is subject to production processes alterations throughout the year.</li> <li>☐ Facility handles large quantities of toxic substances, or substances that are toxic in large amounts.</li> <li>☐ Facility has been granted seasonal relief of numeric limitations.</li> </ul>
Allowable Effluent Concentration (AEC) calculations determine if the facility is to conduct single dilution or multiple dilution WET testing. Facilities that discharge to unclassified or Class C receiving streams, the AEC% is 100%. Facilities with less than 100% for an AEC% will have multiple dilution WET testing. Facilities that discharge to Lakes and have Acute WET testing, the AEC% is 100% due to [10 CSR 20-7.031(4)(A)4.B.(IV)(b)] ZID not allowed for Lakes.

• Minimum Sampling and Reporting Frequency Requirements. The previous state operating permit established once per week minimum sampling requirement for Flow, BOD<sub>5</sub>, TSS, and pH. It also established once per month minimum sampling requirement for Ammonia and Temperature. As per [10 CSR 20-7.015(C)1.], the department will develop a wastewater sampling program based on design flow that will require at a minimum one (1) wastewater sample per year for each 50,000 gallons per day of effluent. In addition, Missouri Effluent Regulation, 10 CSR 20-7.015(C)1.B., establishes that point sources that discharge more than one (1) MGD will be required at a minimum to collect twenty (20) wastewater samples per year.

By applying the criteria as listed in [10 CSR 20-7.015(C).1], the minimum sampling requirement for this facility is 30 samples per year. 30/12 months = 2.5 samples per month. The minimum sampling requirement as established in the expired operating permit satisfies the above cited regulations, and therefore, will be retained.

In addition, Total Ammonia as N and Temperature will be modified to once per week.

Additionally, the Toxic (metal) pollutants of Antimony, Copper, Lead, and Zinc, will receive a minimum sampling requirement of once per month. This is due to the fact that these are the pollutants of concern that this facility accepts from an industrial source, but are not treated at this facility.

The remaining Toxic (metal) pollutants (not listed above) will receive a minimum sampling requirement of once per quarter, due to the fact that these metals are not pollutants of concern. These pollutants will be evaluated during the next operating permit renewal; however, due to the fact that once per quarter sampling will not determine a sound variability. Meaning that the once per quarter monitoring may continue during the next operating permit renewal. Additionally, minimum monitoring requirements and/or the establishing of effluent limits for these pollutants depends on the results.

The TTO (various pollutants) monitoring requirement will be conducted once annually. It is recommended that this test is conducted prior to the renewal application, so that results of this test can be used in the next renewal. Therefore, this test is recommended to be conducted in December of 2008, and the results will be submitted in the February 2009 Discharge Monitoring Report.

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### Part VI – Administrative Requirements

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. The proposed determinations are tentative pending public comment.

#### **PUBLIC NOTICE:**

As per the Missouri Clean Water Law, the Missouri Clean Water Commission, and the federal Clean Water Act, persons wishing to comment on Missouri State Operating Permits are directed to do so by a department approved Public Notice coversheet. This Public Notice coversheet is attached to a Missouri State Operating Permit during the Public Notice period.

☑ - The Public Notice period for this operating permit was from October 24, 2008, to November 27, 2008. The owner, City of Charleston, did not respond during or after the Public Notice of this operating permit. The Missouri Coalition for the Environment (coalition) did submit comments regarding this operating permit. However, the coalition's comments did not contain comments or concerns to justify not issuing this operating permit. As part of the issuance process, the department will submit its response to the coalition. The issuance of this operating permit is scheduled for December 12, 2008.

This operating permit was revised to update the Interim & Final Effluent limitations Table regarding the TTO requirement. The operating permit issued on January 23, 2009, indicated that the samples were to be taken in December 2008 and the report was to be sent to the department in February 2009. The revision not requires that the test be taken once per permit cycle and the results be submitted on or before February 28, 2010.

DATE OF FACT SHEET: SEPTEMBER 12, 2008

REVISED: JANUARY 26, 2009

COMPLETED BY:

MICHAEL ABBOTT, ENVIRONMENTAL SPECIALIST NPDES PERMITS UNIT
PERMITTING AND ENGINEERING SECTION
WATER PROTECTION PROGRAM
(573) 526-1139
michael.abbott@dnr.mo.gov

#### Part VII - Appendices

APPENDIX A - CLASSIFICATION WORKSHEET:

Ітем	POINTS POSSIBLE	POINTS Assigned
Maximum Population Equivalent (P.E.) served (Max 10 pts.)	1 pt./10,000 PE or major fraction thereof.	2
Maximum: 10 pt Design Flow (avg. day) or peak month; use greater (Max 10 pts.)	1 pt. / MGD or major fraction thereof.	2
EFFLUENT DISCHARGE RECEIVING	WATER SENSITIVITY:	
Missouri or Mississippi River	0	
All other stream discharges except to losing streams and stream reaches supporting whole body contact	1	
Discharge to lake or reservoir outside of designated whole body contact recreational area	2	<u></u>
Discharge to losing stream, or stream, lake or reservoir area supporting whole body contact recreation	3	3
PRELIMINARY TREATMENT	` Headworks	
Screening and/or comminution	3	
Grit removal	3	
Plant pumping of main flow (lift station at the headworks)	3	3
PRIMARY TREATM	ENT .	
Primary clarifiers	5	
Combined sedimentation/digestion	5	
Chemical addition (except chlorine, enzymes)	4	<b></b> ·
REQUIRED LABORATORY CONTROL – performed	by plant personnel (highest level only)	
Lab work conducted outside of plant	0	
Push – button or visual methods for simple test such as pH,  Settleable solids	3	3
Additional procedures such as DO, COD, BOD, titrations, solids, volatile content	5	
More advanced determinations such as BOD seeding procedures, fecal coliform, nutrients, total oils, phenols, etc.	7	
Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph	10	
ALTERNATIVE FATE OF I	EFFLUENT	* * 1
Direct reuse or recycle of effluent	6	-
Land Disposal – low rate	3	· <u>-</u>
High rate	5	
Overland flow	· 4	
Total from page ONE (1)	· · · · · · · · · · · · · · · · · · ·	13

Ітем	POINTS POSSIBLE	POINTS ASSIGNED
VARIATION IN RAW WASTE (highest level only) (DMR ex	xceedances and Design Flow exceeda	nces)
Variation do not exceed those normally or typically expected	0	0
Recurring deviations or excessive variations of 100 to 200 % in strength and/or flow	2	
Recurring deviations or excessive variations of more than 200 % in strength and/or flow	4	
Raw wastes subject to toxic waste discharge	6	
SECONDARY TREATM	MENT	
Trickling filter and other fixed film media with secondary clarifiers	10	
Activated sludge with secondary clarifiers (including extended aeration and oxidation ditches)	15	
Stabilization ponds without aeration	5	5
Aerated lagoon	8	8
Advanced Waste Treatment Polishing Pond	2	
Chemical/physical – without secondary	15	
Chemical/physical – following secondary	10	
Biological or chemical/biological	12	
Carbon regeneration	4	
DISINFECTION		
Chlorination or comparable	5	
Dechlorination	2	
On-site generation of disinfectant (except UV light)	5	
UV light	4	
SOLIDS HANDLING - SI	LUDGE	
Solids Handling Thickening	5	
Anaerobic digestion	10	
Aerobic digestion	6	,
Evaporative sludge drying	2	
Mechanical dewatering	8	
Solids reduction (incineration, wet oxidation)	12	
Land application	6	
Total from page TWO (2)		13
Total from page ONE (1)		13
Grand Total		26

- A:	71	points	and	greater
n.	<i>E</i> 1	:	70	:

<sup>☐ -</sup> B: 51 points – 70 points
☐ - C: 26 points – 50 points
☐ - D: 0 points – 25 points

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#### APPENDIX B-RPA RESULTS:

Constituent	CMC*	RWC Acute*	CCC*	RWC CHRONIC*	REASONABLE POTENTIAL	# OF SAMPLES**	CV***
TOTAL AMMONIA AS N (SUMMER)	12.1	51.6	1.5	51.6	YES	37	1.486
TOTAL AMMONIA AS N (WINTER)	12.1	44.8	3.1	44.8	YES	37	0.821

For the purpose of conducting a RPA, staff did not utilize the Ammonia Decay (as noted in the CCC). This is due to the fact that the RWC Acute was above the CMC criteria, which can not be exceeded.

Reasonable Potential Analysis is conducted as per (TSD, EPA/505/2-90-001, Section 3.3.2). A more detailed version including calculations of this RPA is available upon request.

<sup>\* -</sup> Units are mg/L.

<sup>\*\* -</sup> If the number of samples is greater than 10, then the CV value must be used in the WQBEL for the applicable constituent.

<sup>\*\*\* -</sup> Coefficient of Variation (CV) is calculated by dividing the Mean of the sample by the Standard Deviation of the sample.

MPDS Parit Mo-0120081 Sent in for renewd in July 2013 called Bren Paris Butet DRR 12-16-13 2-4-14 he said he had not got to the permit remend yet but we are OK.

Date	BOD mg/l	Sus.Solids mg/l	Temp °C	Ammonia mg/l	Limits		
	monthly average	monthly average	monthly average	monthly average			
1/1/2011	16.6	11.4	2.8	10.7	BOD	65mg/l	
2/1/2011	22.5	9.25	6.5	13.5	S.S.	45mg/l	
3/1/2011	28.32	14.8	10.6	12.2	Nh3	5/1-9/31	1.4mg/l
4/1/2011	18.8	12.5	17.2	10.6		11/1-4/30	2.9mg/l
5/1/2011	8.9	14	21	7.68			
6/1/2011	6.9	11.5	27.7	1.04			
7/1/2011	6.92	17.25	28.9	0.133			
8/1/2011	7.74	23.5	21.5	0.192			
9/1/2011	8.99	18.6	18.4	0.085			
10/1/2011	12.5	17.75	14	0.147			
11/1/2011	12.5	17.7	11.1	0.147			
12/1/2011	11.26	11.25	8.1	1.27			
1/1/2012	8.97	4.6	7.4	14.8			
2/1/2012	16.2	8.75	14.5	9.01			
3/1/2012	18.6	6.12	16.7	6.23			
4/1/2012	18.2	19	23.7	8.95	×		
5/1/2012	15.7	24.8	23.6	1.8			
6/1/2012	8.46	7.75	28	0.363			
7/1/2012	7.28	16.4	30.6	0.195			
8/1/2012	7.28	20.25	27.7	0.09 Reactor	went on line		
9/1/2012	7.21	27.25	23.8	0.05			
10/1/2012	7.93	19.6	15.9	0.05			
11/1/2012	7.27	22.25	11.7	0.05			
12/1/2012	14.6	19.25	10.3	0.05			
1/1/2013	15.8	19.6	4.5	1.599			
2/1/2013	20.9	20.75	8	1.08			
3/1/2013	11.4	21.75	8.6	0.025			
4/1/2013	14.4	16.2	16.6	3.89			
5/1/2013	19.9	22.75	22.1	4.63			
6/1/2013	6.98	17.5	22.5	0.025			

7/1/2013	7.4	11	27.6	0.025		
8/1/2013	9.77	9.25	27.3	0.025		
9/1/2013	7.5	15.4	26.1	0.025		
10/1/2013	5.4	9.25	19.7	0.025	1	
11/1/2013	12.45	8.6	11.8	0.025		
12/1/2013	20.62	21.6	7.16	0.459		

#### **David Harris**

John,

I called you earlier about our elevated ammonia levels. Since then I have contacted Smith & Co. and a representative from Lemna. The only conclusion we could come up with is there was something dumped into the collection system that killed off our nitrification bacteria. The NH3 levels are going down so the nitrification bacteria is growing back. We have also bought 10 gallons of Nitro Bacteria Supplement to help reseed our bacteria also we increased NH3 monitoring . On 5/20/13 our effluent NH3 was < 0.05 mg/l . Whatever it was that moved through is apparently gone and our reseeding has worked.

Thanks,

David Harris
Public Works Director
City of Charleston, Mo.
PH 573.683.3325
FX 573.683.3297

#### **David Harris**

#### Wesley,

We spoke on Thursday 2/6/14 about our NH3 average for January being a little high, 5.8 for the month. After speaking with Greg Bell, one of engineers with Smith & Co, we believe this could be due to the extremely cold weather. The temperature of the water for January was about 2° C. with our finishing pond being iced over for many of the days. We plan to run more than usual NH3 test of our effluent in February and reseed the nitrifying bacteria when it warms up.

Thanks,

David Harris Public Works Director City of Charleston, Mo. PH 573.683.3325 FX 573.683.3297 Cell 573.233.5842 A Division of Environmental Dynamics International 5601 Paris Rd. Columbia, MO. 65202-9399 TELEPHONE (573) 474-9456 FAX (573) 474-6988

#### EDI Aeration Works PROPOSAL #2014-137

TO:

Mr. David Harris

City of Charleston, MO

RE:

Extended Warranties and Routine Maintenance

EDI FlexAir Aeration/Mixing System

Dear Mr. Harris:

EDI Aeration Works is pleased to offer the following extended warranty Proposal for the EDI Aeration/Mixing System currently in service at the Charleston Wastewater Treatment Plant. The proposal includes inspections, routine maintenance, forensic testing of the membranes and an option for a total membrane replacement. The proposal is for budgetary purposes and can be modified as required to best suit the objectives of the City.

#### **Maintenance Service:**

The scope of this proposal includes labor cost, travel and living expenses, as well as any specialized construction equipment cost required to complete the scope of work outlined below.

EDI Aeration Works is uniquely capable of installing and maintaining EDI equipment. The crew that will be employed on-site has many years of servicing all types of EDI's aeration equipment, and have or will furnish all the specialized equipment to maintain this particular system. Aeration Works will insure that the installation meets all of EDI's specifications and directions.

Maintenance Programs can be beneficial from both a budgeting and staffing perspective. EDI Aeration Works believes it is in our best interest to listen to the needs of our customer and customize maintenance programs accordingly. Based on your input, it appears as though a multi-year maintenance contract inclusive of a complete membrane changeout at the end to agreement may work well for you. For comparative purposes, we have also included information and pricing on a more traditional preventative maintenance program. Details are as follows:

#### Preventative Maintenance Program.

The Preventative Maintenance Program allows facility operators to outsource the regularly scheduled maintenance of their aeration systems. EDI assumes the burden of maintenance and will inspect a subset of the diffuser membranes to determine the overall condition and rate of aging as well as make any required system repairs as part of the service agreement. Repairs will be performed at no additional cost to the owner. When this program is chosen as part of a new EDI aeration system sale, the mechanical warranty is extended as long as a service agreement remains in place. Aeration Works can inspect an older system and a preventative maintenance program can be offered. Note: The Charleston system was recently refurbished by the Aeration Works crews and therefore is eligible for the program.

The Infinity Program. The Infinity Program offers the same mechanical warranty and services as the Preventative Maintenance Plan but goes one step further by guaranteeing the performance of the aeration system. Under this program, EDI maintains the physical condition of the membranes through

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EDI Aeration Works Proposal #2014-137 Charleston, MO Maintenance Quote Page 2

**EDI Aeration Works** 

preventative maintenance procedures and will periodically measure the performance of the membrane. EDI Aeration Works will replace or adjust the equipment to ensure the aeration system operates within a pre-determined performance envelope. Performance is defined as the ability of the membranes to release the required airflow without adding a specified additional pressure on the blowers.

The benefits of this program are:

- 1. No funding surprises when unexpected mechanical problems do surface.
- 2. The yearly fee can cover both ancillary parts and labor.
- 3. New membranes are scheduled to be supplied and replaced on a defined frequency, which will increase the efficiency of the wastewater treatment plant.

#### Proposal:

#### Preventative Maintenance Program.

- The Preventative Maintenance Program is provided in 8 year increments.
- A visual inspection of the entire lagoon will be completed once every 2 years to identify any potential problem areas.
- During the scheduled visits, a physical inspection of a subset of the aeration diffuser assemblies will be completed. During this inspection the following will be performed:
  - o All airlines that feed the individual diffusers will be inspected and maintained as required.
  - Diffuser cores inspected and maintained.
  - o Any ripped or torn membranes will be replaced up to a maximum of 15 membranes.
- Any maintenance required on the diffusers will be performed.
- This program does not warrant the condition of the membrane.
- During the detailed inspection, membranes will be harvested from the lagoons, and taken to EDI laboratory for forensic analysis. A report detailing the condition of the membranes will be provided to the owner.
- During the 8 year period, EDI is responsible for all cost associated with keeping the aeration equipment fully maintained.
- Diffuser ropes and floats will be inspected and maintained. Any float not visible on the water surface will be replaced.

#### Infinity Maintenance Program:

- The Infinity program is provided in 8 year increments.
- A visual inspection of the entire lagoon will be completed once every 2 years to identify any
  potential problem areas.
- During the scheduled visits, a physical inspection of a subset of the aeration diffuser assemblies will be completed. During this inspection the following will be performed:
  - All airlines that feed the individual diffusers will be inspected and maintained as required.
  - o Diffuser cores inspected and maintained.
  - o Any ripped or torn membranes will be replaced.
  - The aeration system will also be observed to determine if any maintenance is require prior to the scheduled detailed inspection.
- Any maintenance required on the diffusers (membranes included) will be performed.
- This program does warrant the condition of the membrane.
- During the detailed inspection, membranes will be harvested from the lagoons, and taken to EDI laboratory for analysis. A report detailing the condition of the membranes will be provided.
- · All membranes will be replaced with new membranes during the inspection in year eight.
- During the 8 year period, EDI is responsible for all cost associated with keeping the diffuser equipment fully maintained.
- Diffuser ropes and floats will be inspected and maintained. Any float not visible on the water surface will be replaced.

EDI Aeration Works Proposal #2014-137 Charleston, MO Maintenance Quote Page 3

**EDI Aeration Works** 

#### **Proposal Notes:**

- Bid assumes that the lagoons will be ready for equipment maintenance upon arrival.
- The personnel that will be onsite have a Certificate of Completion for Confined Space Entry 29 CFR 1910.146.
- When applicable, Aeration Works will collect and deposit used membranes and other debris close to the lagoon. Owner is to provide a designated place (dumpster) and disposal is the responsibility of the Owner.
- Bid assumes that the submerged PE piping, associated branch connections and fittings
  are intact and do not leak. While rare, breaks or leaks that exist or occur during the
  maintenance activity are not covered by this proposal and a diver may be required to
  repair underwater leaks.
- Aeration Work's crew members have extensive safety training and Aeration Works will be responsible for following our safety procedures.
- Pricing <u>does not</u> include Davis-Bacon wages.
- Pricing includes one mobilization-demobilization for each scheduled inspection.

#### Price:

Preventative Maintenance Program: Based on an 8 year contract.

\$2,410.00/year is the annual price for the program as described above.

Infinity Maintenance Program: Based on an 8 year contract.

\$8,897.00/year is the annual price for the program as described above.

#### **Proposal Terms:**

First Year Maintenance Fee is due Net 30 upon receipt of Proposal Acceptance or Purchase Order. Subsequent Maintenance Fees are due Net 30 from January 1<sup>st</sup> of the Maintenance Year.

EDI Aeration Works reserves the right to review warranty pricing after every 8 year period.

An interest charge at a rate no less than prime plus 2% will be assessed on all late payments.

Date: October 17, 2014

**EDI Aeration Works** 

Michael J Korman

**Director of Business Operations** 

Aeration Works

EDI Aeration Works Proposal #2014-137 Charleston, MO Maintenance Quote Page 4

**EDI Aeration Works** 

#### EDI Proposal Aeration Works 2014 – 119

Environmental Dynamics International., hereinafter also referred to as EDI or the Company, offers this proposal to supply equipment. Any resulting contract between EDI and the Purchaser shall be subject to the following terms and conditions.

<u>Services</u> - Environmental Dynamics International is a manufacturer of water and wastewater treatment equipment and systems. EDI is not a consulting engineering firm and does not provide Professional Engineering services as part of our contracts to supply equipment hardware.

<u>Process and Performance Warranties</u> - Contracts for purchase of equipment accepted by EDI exclude any process or performance warranties related to system design. Additionally, no biological or process performance warranties are expressed or may be implied by the participation of EDI in this contract. Any biological or process performance warranty for systems supplied by the Company shall be specifically and independently detailed and signed as a separate contract by an authorized Officer of the Company.

Governing Law - Any proposal for equipment supply made by the Company as well as any contract between the Company and the Purchaser are deemed to be executed at Columbia, Missouri, USA, subject to correction for typographical or mathematical errors and governed by Missouri law.

<u>Credit Approval</u> - Performance of any contract by the Company is contingent upon Purchaser credit approval. Credit may be waived in lieu of a project materials payment bond. A materials payment bond supplied to the project Owner or Engineer by the Purchaser is acceptable. EDI reserves the right to hold shipment on delinquent accounts.

<u>Force Majeure</u> - Strikes, fires, accidents, war, reduced supply of fuel or raw materials or excessive cost thereof, or other restraints affecting shipments or curtailments in manufacturing or due to delays unavoidable by or beyond the control of the Company shall be governed by *force majeure*.

Costs and Damages - The Company shall in no instance be liable for indirect or special costs, consequential or liquidated damages or any penalties outside the written contract.

<u>Special Hazards</u> - Unusual conditions such as rock, poor foundation soils, excess water or other unusual site or safety conditions are not covered by this standard Company proposal. Extra costs emanating from unusual site or safety conditions shall be negotiated with written agreements developed at or subsequent to the time of discovery and prior to further work being completed by EDI.

Shipment & Delivery Times - Statements as to expected date of hardware shipment represent the Company's best judgment, but shipment on those dates is not guaranteed. The Purchaser hereby waives all claims to damages caused by delay in shipment or delivery of hardware.

<u>Insurance</u> - The Purchaser agrees to provide and maintain for the benefit of the Company adequate insurance for the equipment herein specified from the time of its shipment from EDI until paid for in full and the Purchaser agrees to assume all loss over and above that compensated for by such insurance. The Purchaser shall procure and pay for all public liability insurance during the installation of any EDI provided equipment.

<u>Title of Ownership</u> - All equipment and/or services ordered by Purchaser from the Company shall remain the property of the Company until fully paid for in cash.

<u>Cancellation or Suspension</u> - of any order will be accepted only upon terms that will indemnify the Company against loss. Additionally, the Company may invoice the Purchaser 15% of the agreed upon contract price.

Back Charges - must be approved by EDI, in writing, before they will be accepted. EDI will make every effort to offer prompt consideration and approval of legitimate back charges.

<u>Invoicing</u> - The Company may make partial billings of the contract price as various components of the equipment are shipped. When equipment is manufactured by EDI, but shipment is delayed by the Customer, EDI shall be paid in accordance with contract terms as though delivery had been accomplished.

Storage Charges - When EDI manufactures equipment to meet schedules established by the Purchaser, the Company reserves the right to invoice the Purchaser for storage charges on items held at EDI at the rate of 1% per month of the sale price.

<u>Default for Non-Payment</u> – Contracts in default of the payment terms may be subject to any or all of the following, should the Purchaser fail to pay the purchase price as agreed the Company may, a) retain as liquidated damages all partial payments made on account thereof to date without prejudice to any other claim for damages suffered by the Company for any cause, b) be allowed site access to recover hardware, c) obtain other balances due from arbitration or d) an interest charge on outstanding invoices billed at the rate of 1.5% per month, 18% per annum.

Attorney Fees — For any suits brought or retainage paid to attorneys to collect any part of the purchase price or to enforce any provision herein, the Purchaser will pay EDI attorney fees and related expenses including an administrative fee equal to the attorney fees.

Bankruptcy, Receivership or Insolvency Proceedings - Should bankruptcy, receivership or insolvency proceedings be instituted by or against the Purchaser or should the Purchaser make an assignment in favor of creditors, the unpaid balance of the purchase price shall immediately become due and payable at the option of the Company. Notwithstanding other arrangements to the contrary, the Company shall be free to enter premises where equipment for which the Company has not been fully paid may be located and remove said equipment as its property without prejudice to any further claims on amounts of damage which the Company may suffer from any cause.

**Promissory Note** - Acceptance of a promissory note or other evidence of debt for any part of price shall not be construed as payment.

Patent infringement - Any interference with Purchaser's use of equipment supplied by the Company on the grounds that such use constitutes an infringement of any patent shall impose no liability on the Company.

Spare or Potential Warranty Parts – If spare parts or potential warranty parts are required immediately, EDI may ship those parts subject to the following limitations: a) Purchaser agrees to pay for additional components or spare components including special freight charges. Reimbursement will be issued as a credit to the Purchasers account in the event potential warranty parts are verified as actual warranty defects and b) Contract price adjustments or price adjustments on additional or spare components are subject to EDI approval and original contact terms.

<u>Defective, damaged, improper material or shortage</u> - Claims will not be allowed unless written notice specifying the nature and extent of the defect, damage or shortage is received in the Company's office within fourteen (14) days from unloading – unless the defect, damage or shortage is of such a nature that it would not be reasonably discovered until the material is assembled and/or erected as a finished product, then the fourteen (14) days will begin from the date of commencement of assembly and/or erection.

Mechanical Warranty - As per Manufacturers Limited Mechanical Warranty Statement

Accepted by Buyer:	Date:



Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

www.dnr.mo.gov

August 13, 2013

The Honorable Phillip Halter City of Charleston P.O. Box 216 Charleston, MO 63834

Dear Mr. Halter:

A routine compliance inspection of the wastewater treatment facility (WWTF) serving the City of Charleston, Missouri was conducted on June 12, 2013, by a representative of the Missouri Department of Natural Resources' Southeast Regional Office. Enclosed is a copy of the inspection report.

The report outlines the findings of the inspection and lists important recommendations that should be considered to ensure continued compliance.

If you have any questions, please contact me at the Southeast Regional Office, 2155 North Westwood Boulevard, Poplar Bluff, MO 63901 or call (573) 840-9750.

Sincerely,

SOUTHEAST REGIONAL OFFICE

Wesley Hargraves

**Environmental Specialist** 

**Enclosures:** 

Report of Compliance Inspection

Photographs

C:

Richard Goode, City Manager, City of Charleston David Harris, Public Works Director, City of Charleston

# RFTORT OF COMPLIANCE INSPECT ON CHARLESTON WWT LAGOON MISSISSIPPI COUNTY MO-0120081 August 13, 2013

#### INTRODUCTION

Pursuant to Section 644.026.1 RSMo of the Missouri Clean Water Law, a routine compliance inspection of the Charleston Wastewater Treatment Lagoon in Mississippi County, Missouri was conducted by Wesley Hargraves of the Missouri Department of Natural Resources' Southeast Regional Office on June 12, 2013.

This inspection was conducted to determine the facility's compliance with Missouri State Operating Permit (MSOP) MO-0120081, the Missouri Clean Water Commission Regulations, and the Missouri Clean Water Law. This report presents the findings and observations made during the compliance inspection.

#### FACILITY DESCRIPTION / HISTORY

MSOP MO-0120081 was last issued on January 23, 2009, and expires on January 22, 2014. This permit sets forth effluent limitations, monitoring requirements, and permit conditions, both standard and specific, that the permittee is to follow. The facility requires a Certified "C" operator and consists of the following:

Outfall #001 Three (3) cell aerated lagoon / one (1) cell lagoon / weir structure. Sludge is retained in the lagoon. The design population equivalent is 15,000. The design flow is 1.5 million gallons per day (MGD). Design sludge production is 225 dry tons per year.

The legal description is listed on the permit as the NW ¼, SE ¼, Section 33, Township 27 North, Range 16 East, in Mississippi County. The receiving stream for this facility is an unnamed tributary to Stevenson Bayou.

The Charleston Wastewater Treatment Lagoon was last inspected March 2, 2010. At that time, the facility was determined to be in compliance with no unsatisfactory features noted.

#### **DISCUSSION OF INSPECTION AND OBSERVATIONS**

Prior to the inspection, the files and Permit Conditions of MSOP MO-0120081 were reviewed.

The inspection was conducted during normal business hours. Prior notification of the inspection was provided to ensure timely access to the site. I met Mr. David Harris, Public Works Director (WW "A" Operator Certificate #2932), at Charleston City Hall and we proceeded to the lagoon facility. There, we joined Mr. Allen Rodgers, Operator (WW "D" Operator Certificate #2103), to discuss the purpose and scope of the inspection. Mr. Harris granted permission to access the site and Mr. Rodgers accompanied me throughout the inspection of the WWTF.

#### **DISCUSSION OF INSPECTION AND OBSERVATIONS (continued)**

Mr. Rodgers and I visually inspected the lagoon cells and blower equipment. All lagoon cells were well maintained as were the blower sheds. This system has three blowers in each of the two sheds. The blowers in each shed are rotated. Mr. Rodgers, Mr. Harris, and I then viewed the newly constructed ammonia reactor and UV systems. The outfall and receiving stream was then inspected and water quality monitoring readings taken.

Mr. Rodgers and I continued with the inspection by viewing 3/20 Charleston's lift stations. All lift stations appeared to be in working order. Check valves at the lift stations did not appear to be exercised regularly. Some of the lift stations were physically in better shape than others since the City is in the middle of renovating all their lift stations. We then joined back up with Mr. Harris to review the City's lab and records including maintenance logs, lab reports, and the last 12 months of discharge monitoring reports.

At the time of inspection, the WWTF appeared to be overall well operated and maintained.

#### WATER QUALITY MONITORING

The appropriate sampling materials were taken on the inspection, including a copy of the Missouri Department of Natural Resources' Standard Operating Procedures for Sampling. Instruments for field monitoring were taken on the inspection that are capable of testing pH, temperature, conductivity, and dissolved oxygen.

Water quality field monitoring was conducted at the following location for the listed parameters. The effluent was green in color and free of visible solids and odor.

Table 01

Outfall 001										
Parameter	Result	Units								
pН	8.0	S.U.								
Temperature	29.8	°C								
Dissolved Oxygen	7.10	mg/L								

The Environmental Services Program had recently pulled samples at the Charleston Wastewater Treatment Lagoon. Therefore, samples were not collected. The receiving stream was free and clear of any unsightly or harmful bottom deposits. When sampling results become available the City will be notified by mail.

#### **COMPLIANCE DETERMINATION**

Based on file review and observations made during the inspection Charleston WWT Lagoon was found to be in compliance with the Missouri Clean Water Law, the Clean Water Commission Regulations, and MSOP MO-0120081.

#### **UNSATISFACTORY FEATURES**

No unsatisfactory features identified at the time of inspection.

#### RECOMMENDATIONS

1. A couple of the lift stations that were viewed during the inspection had valves that appeared to have accumulated rust and didn't look like they had been exercised recently. It is recommended that the City routinely check and exercise these valves to ensure they are in working order.

#### **CLOSING REMARKS**

During the inspection information on renewal of MSOP MO0120081 was requested. This information was sent via email to the facility. A completed version of the following form should be sent to the Department of Natural Resources, Water Protection Program, ATTN: NPDES Permits and Engineering Section, P.O. Box 176, Jefferson City, MO 65102.

FORM B2 - APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT FOR FACILITIES WHICH RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY

A copy of the blank form can be found at <a href="http://dnr.mo.gov/forms/780-1805-f.pdf">http://dnr.mo.gov/forms/780-1805-f.pdf</a>

It can also be found from our homepage <u>www.dnr.mo.gov</u>. Click on the forms permits tab at top. Choose water pollution from the drop down option and scroll down to discharge (water pollution).

I would like to thank Mr. David Harris and Mr. Allen Rodgers for their time and assistance during the inspection. If you have any questions feel free to contact me at (573) 840-9789.

SUBMITTED BY:

Wesley Hargraves

**Environmental Specialist** 

Southeast Regional Office

**REVIEWED BY:** 

Bradley K/Ledbetter

Chief, Water Pollution Control Unit

Southeast Regional Office

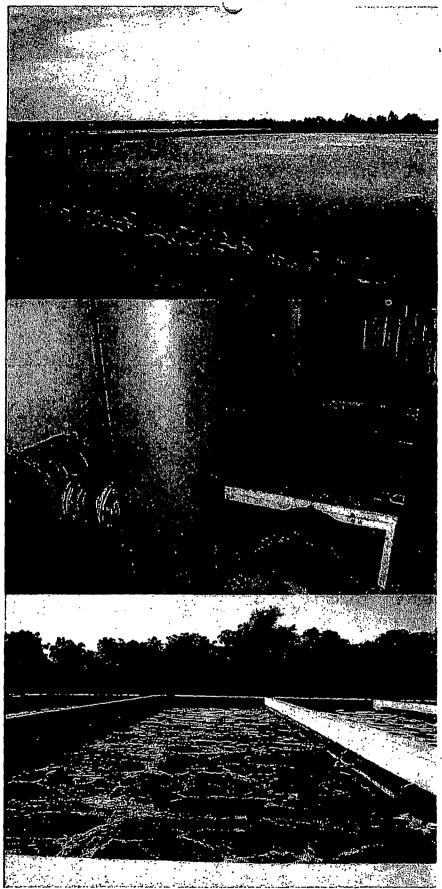


Photo #: 001

By: Wesley Hargraves

Facility: Charleston Wastewater Treatment

Lagoon

**Permit: MO0120081** 

**Location:** Mississippi County

**Description:** View of Charleston Lagoon Cells 3 (foreground) and 2 (background).

Date/Time Taken: 6/12/2013

Program: WPC Unit

Photo #: 002

By: Wesley Hargraves

Facility: Charleston Wastewater Treatment

Lagoon

Permit: MO0120081

**Location:** Mississippi County

**Description:** Aerator pump shed.

Date/Time Taken: 6/12/2013

Program: WPC Unit

Photo #: 003

By: Wesley Hargraves

Facility: Charleston Wastewater Treatment

Lagoon

Permit: MO0120081

Location: Mississippi County

**Description:** Charleston's recently installed

nitrogen ammonia reactor.

Date/Time Taken: 6/12/2013

Program: WPC Unit

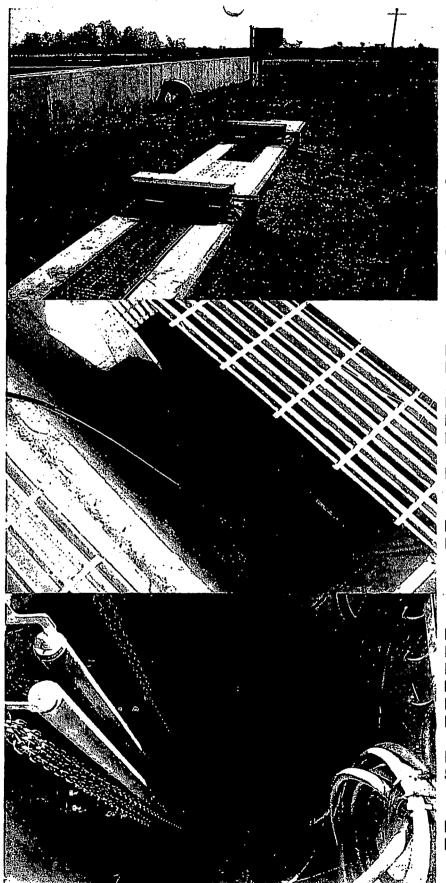


Photo #: 004

By: Wesley Hargraves

Facility: Charleston Wastewater Treatment

Lagoon

Permit: MO0120081

Location: Mississippi County

**Description:** Charleston installed UV disinfection along with the ammonia reactor.

Date/Time Taken: 6/12/2013

Program: WPC Unit

Photo #: 005

By: Wesley Hargraves

Facility: Charleston Wastewater Treatment

Lagoon

Permit: MO0120081

Location: Mississippi County

**Description:** Effluent at Outfall #001

Date/Time Taken: 6/12/2013

Program: WPC Unit

Photo #: 006

By: Wesley Hargraves

Facility: Charleston Wastewater Treatment

Lagoon

Permit: MO0120081

Location: Mississippi County

**Description:** Monsanto Road (Story Lift Station #12) Recently renovated in 2013.

Date/Time Taken: 6/12/2013

Program: WPC Unit



Photo #: 007

By: Wesley Hargraves

Facility: Charleston Wastewater Treatment

Lagoon

**Permit: MO0120081** 

Location: Mississippi County

**Description:** Gilmore Liftstation #18. This lift station is one of the City's worse. It has not been renovated since 1987, but is slated

for renovation in the near future.

Date/Time Taken: 6/12/2013

Program: WPC Unit

Photo #: 008

By: Wesley Hargraves

Facility: Charleston Wastewater Treatment

Lagoon

**Permit: MO0120081** 

Location: Mississippi County

Description: Valves at both the Gilmore Lift station and the Shoe Factory Lift station #6 (pictured) should be regularly exercised to

ensure they remain functional.

Date/Time Taken: 6/12/2013

Program: WPC Unit

Photo #: 009

By: Wesley Hargraves

Facility: Charleston Wastewater Treatment

Lagoo

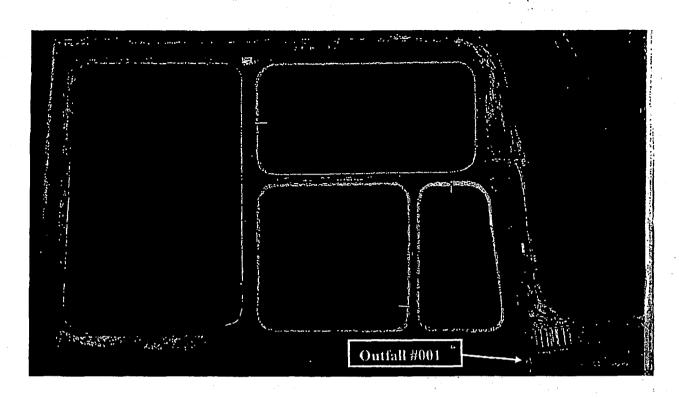
Permit: MO0120081

Location: Mississippi County

**Description:** The City of Charleston's Lab.

Date/Time Taken: 6/12/2013

Program: WPC Unit



Aerial view of Charleston WWT Lagoon taken via Google.

## Lift Station Report Updated 4/7/14

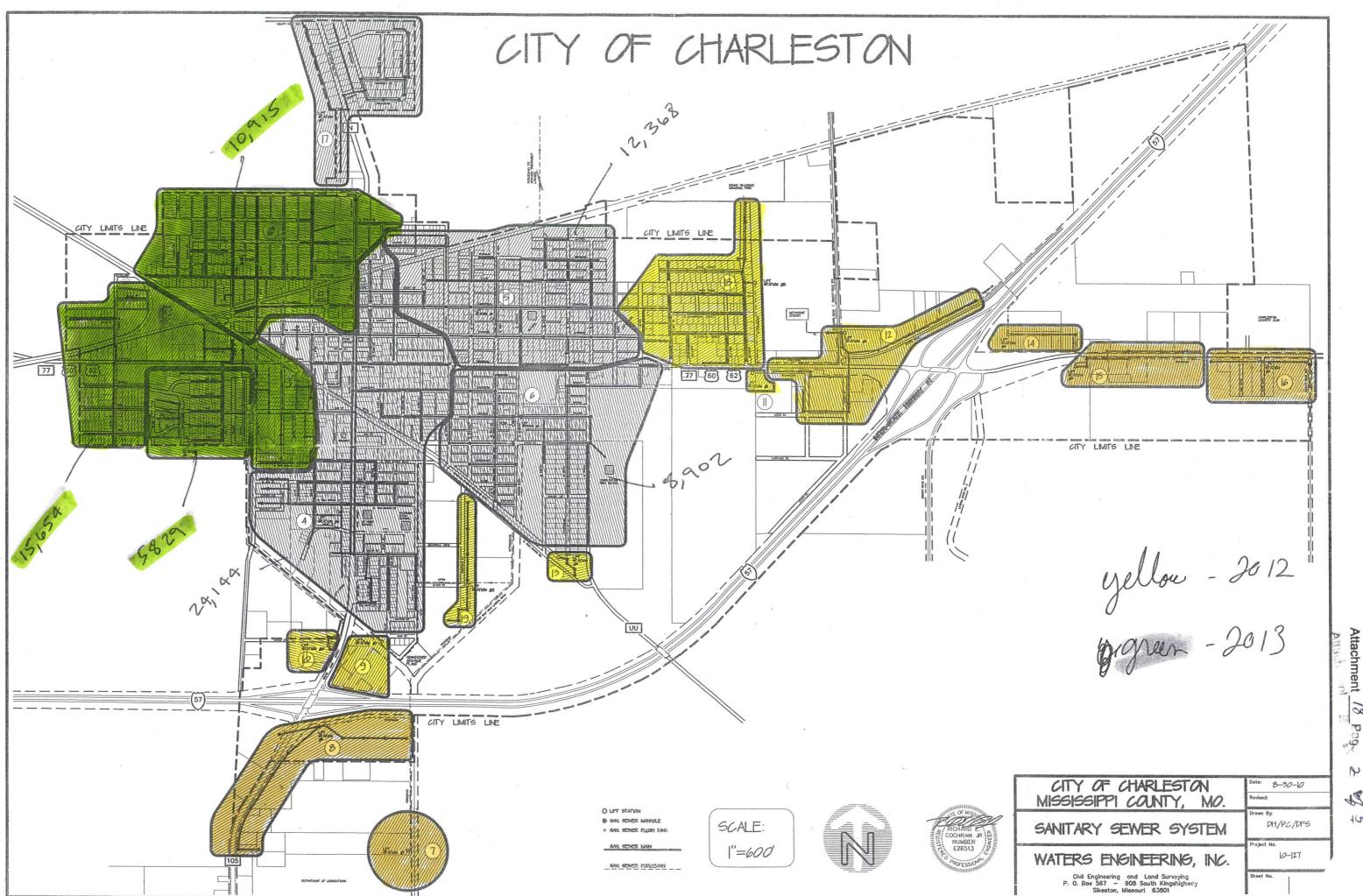
Station #	Station Name	Size	Working Environment	Condition	Last Renovation	Needs	
1	Del Farm	10hp	outrom o	Fair	2009	impellers	
1	Derraitii	duplex	extreme	Fall	2009	Impeliers	
2	Cl				2007		
2	Elm	10hp	extreme	good	2007	none	
2	D 1	duplex			4007	A-A-FbHd	
3	Paul	7.5 hp	extreme	poor	1987	total rebuild	
4	6:	duplex		f-1-	2044		
4	Gier	10hp	moderate	fair	2011	impellers	
_		duplex					
5	Sixth St.	10hp	moderate	good	2011	none	
		duplex					
6	Shoe Factory	10hp	extreme	fair	2007	gate & check	
		duplex				valves	
7	Prison	20hp	moderate	fair	1999	none	
		duplex					
8	Boomland	10hp	moderate	fair	1996	none	
		duplex					
9	Alco	3hp	moderate	fair	1996	impellars, multitrode	
		duplex				wear rings	
10	McDonalds	5hp	moderate	good	2013	none	
		duplex					
11	Reeves	2hp	low	fair	2014	none	
		duplex					
12	Story	10hp	extreme	good	2013	none	
		duplex					
13	Blue Jay	3hp	moderate	good	2011	none	
		duplex					
14	E. Overpass N.	3hp	moderate	fair	2010	flush valves	
		duplex				Impellers, wear rings	
15	E. Overpass S.	3hp	moderate	fair	2010	Impellers, wear rings	
		duplex				penere,ge	
16	Golf Course	3hp	low	good	2014	none	
10	con course	duplex		8000	2021	, ione	
17	N. Main	10hp	low	fair	1996	multitrode	
27	11.1710111	duplex	1011		1330	Tridition one	-
18	Gilmore	10 hp	extereme	good	2014	none	-
10	Simore	duplex	CALCICITE	Poor	2017	Hone	
19	Master	1-60 &2-50	extreme	fair	1990	Panel, wear rings, guide claw	c
13	iviastei	triplex	EXITETITE	Idii	1330	r arier, wear rings, guide claw.	3
20	Water Plant	25hp	low	good	2000	nonc	
20	water Plant	duplex	low	good	2000	none	

particulary ?

#### Charleston Sewer Rehab

																								Plar	Year				
L.S.	Length of	Number of	Length of	Smoke	Clean &	Manhole	Smoke	Clean &	Manhole	Total	% MH	% Gravity	Manholes	Gravity	\$ per	\$ per LF	Manhole	Gravity	Total		l	nspection Wor	k				Rehab Work		
Zone	Gravity Main	Manholes	Forcemain	Testing/ft	CCTV/ft	Insp/ea.	Testing	CCTV	Inspections	Inspection	Rehab	Rehab	Rehabed	Rehabed	MH	Gravity	Rehab Cost	Rehab Cost	Rehab	1	2	3	4	5	6	7	8	9	10
1	17,770	51	4,979	\$ 0.55	\$ 2.20	\$ 88.00	\$ 9,773.50	\$ 17,592.30	\$ 4,488.00	\$ 31,853.80	20%	20%	10	3,554	\$ 1,150.00	\$ 85.00	\$ 11,730.00	\$ 302,090.00	\$ 313,820.00	\$ -	\$ -	\$ -	\$ 31,853.80	\$ -	\$ -	\$ -	\$ -	\$313,820.00	\$ -
2	16,917	27	2,563	\$ 0.55	\$ 2.20	\$ 88.00	\$ 9,304.35	\$ 16,747.83	\$ 2,376.00	\$ 28,428.18	20%	20%	5	3,383	\$1,150.00	\$ 85.00	\$ 6,210.00	\$ 287,589.00	\$ 293,799.00	\$ -	\$ -	\$ -	\$ 28,428.18	\$ -	\$ -	5 -	\$ -	\$ 293,799.00	\$ -
3	7,670	17	3,526	\$ 0.55	\$ 2.20	\$ 88.00	\$ 4,218.50	\$ 7,593.30	\$ 1,496.00	\$ 13,307.80	25%	25%	4	1,918	\$ 1,150.00	\$ 85.00	\$ 4,887.50	\$ 162,987.50	\$ 167,875.00	\$ -	\$ -	\$ 13,307.80	\$ -	\$ -	\$ -	\$-	\$ 167,875.00	\$ -	\$ -
4	33,042	68	1,446	\$ 0.55	\$ 2.20	\$ 88.00	\$ 18,173.10	\$ 32,711.58	\$ 5,984.00	\$ 56,868.68	25%	25%	17	8,261	\$1,150.00	\$ 85.00	\$ 19,550.00	\$ 702,142.50	\$ 721,692.50	\$ -	\$ -	\$ -	\$ -	\$ 56,868.68	\$ -	\$ -	\$ -	\$ -	\$ 721,692.50
5	18,423	32	1,338	\$ 0.55	\$ 2.20	\$ 88.00	\$ 10,132.65	\$ 18,238.77	\$ 2,816.00	\$ 31,187.42	15%	15%	5	2,763	\$1,150.00	\$ 85.00	\$ 5,520.00	\$ 234,893.25	\$ 240,413.25	\$ -	\$/ -	\$ 31,187.42	\$ -	\$ -	\$ -	\$ -	\$ 240,413.25	\$ -	\$ -
6	12,222	25	278	\$ 0.55	\$ 2.20	\$ 88.00	\$ 6,722.10	\$ 12,099.78	\$ 2,200.00	\$ 21,021.88	20%	20%	5	2,444	\$1,150.00	\$ 85.00	\$ 5,750.00	\$ 207,774.00	\$ 213,524.00	\$ -	21,021.88	\$ -	\$ -	\$ -	\$ -	\$ 213,524.00	\$ -	\$ -	\$ -
<b></b> 7	-	-	9,197	\$ 0.55	\$ 2.20	\$ 88.00	\$ -	\$ -	\$ -	\$ -	20%	20%	-	-	\$1,150.00	\$ 85.00	\$ -	\$ -	\$ -	\$ -	<b>s</b> -	\$ -	\$ -	\$ -	\$ -	\$-	\$ -	\$ -	\$ -
- 8	4,730	11	1,306	\$ 0.55	\$ 2.20	\$ 88.00	\$ 2,601.50	\$ 4,682.70	\$ 968.00	\$ 8,252.20	20%	20%	2	946	\$1,150.00	\$ 85.00	\$ 2,530.00	\$ 80,410.00	\$ 82,940.00	\$ -	\$ -	\$ 8,252.20	\$ -	\$ -	\$ -	\$ -	\$ 82,940.00	\$ -	\$ -
· <b>-</b> 9	800	2	1,742	\$ 0.55	\$ 2.20	\$ 88.00	\$ 440.00	\$ 792.00	\$ 176.00	\$ 1,408.00	5%	5%	0	40	\$1,150.00	\$ 85.00	\$ 115.00	\$ 3,400.00	\$ 3,515.00	\$ -	\$ 1,408.00	\$ -	\$ -	\$ -	\$ - :	\$ 3,515.00	\$ -	\$ -	\$ -
<b>~</b> 10	288	3	2,145	\$ 0.55	\$ 2.20	\$ 88.00	\$ 158.40	\$ 285.12	\$ 264.00	\$ 707.52	15%	15%	0	43	\$ 1,150.00	\$ 85.00	\$ 517.50	\$ 3,672.00	\$ 4,189.50	\$ 707.52	\$ -	\$ -	\$ -	\$ -	\$ 4,189.50	\$ -	\$ -	\$ -	\$ -
<b>~</b> 11	-	-	100	\$ 0.55	\$ 2.20	\$ 88.00	\$ -	\$ -	\$ -	\$ -	0%	0%	-	-	\$ 1,150.00	\$ 85.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$-	\$ -	\$ -	\$ -
- 12	5,986	16	1,830	\$ 0.55	\$ 2.20	\$ 88.00	\$ 3,292.30	\$ 5,926.14	\$ 1,408.00	\$ 10,626.44	20%	20%	3	1,197	\$ 1,150.00	\$ 85.00	\$ 3,680.00	\$ 101,762.00	\$ 105,442.00	•	\$ 10,626.44	\$ -	\$ -	\$ -	\$ -	\$ 105,442.00	•	\$ -	\$ -
<del>~</del> 13	432	4	1,022	\$ 0.55	\$ 2.20	\$ 88.00		<b>\$</b> 427.68	\$ 352.00	\$ 1,017.28	20%	20%	1	86	\$ 1,150.00	\$ 85.00	\$ 920.00	\$ 7,344.00	\$ 8,264.00	\$ -	\$ 1,017.28	*	\$ -	\$ -	\$ -	\$ 8,264.00	•	\$ -	\$ -
- 14	1,062	3	1,490	\$ 0.55	•	\$ 88.00	•	\$ 1,051.38		\$ 1,899.48	20%	20%	1	212	\$ 1,150.00	\$ 85.00	\$ 690.00	,	\$ 18,744.00	•	\$ 1,899.48	•	\$ -	\$ -	\$ -	\$ 18,744.00		\$ -	\$ -
<del>~</del> 15	2,529	9	462	\$ 0.55	\$ 2.20	\$ 88.00	\$ 1,390.95	\$ 2,503.71	\$ 792.00	\$ 4,686.66	20%	20%	2	_	* .,		\$ 2,070.00		\$ 45,063.00	•	\$ 4,686.66	\$ -	\$ -	\$ -	\$ -	\$ 45,063.00	\$ -	\$ -	\$ -
<del></del> 16	1,530	4	2,000	\$ 0.55	\$ 2.20	\$ 88.00	•	\$ 1,514.70		-,		25%	1	383	\$ 1,150.00	\$ 85.00	\$ 1,150.00	\$ 32,512.50		\$ 2,708.20	•	\$ -	\$ -	\$ -	\$ 33,662.50	\$ -	\$ -	\$ -	\$ -
- 17	6,865	23	1,285	\$ 0.55		\$ 88.00	+ -,	.,	-1	\$ 12,596.10		20%	5	-,	\$ 1,150.00		¥ -1	,	,,	\$ 12,596.10	\$ -	\$ -	<b>5</b> -	\$ -	\$ 121,995.00	\$ -	\$ -	\$ -	<b>5</b> -
<b>→</b> 18	12,247	29	2,862	\$ 0.55				\$ 12,124.53		· ·		20%	6	, -	*		4 -1				\$ -	\$ -	\$ -	\$ -	\$ 214,869.00	\$ -	\$ -	\$ -	<b>5</b> -
<del>-</del> ⊸ 19_	2,180	7	1,742	\$ 0.55	\$ 2.20	\$ 88.00		\$ 2,158.20			_ 15%	15%	1	327	\$1,150.00	\$ 85.00			\$ 29,002.50		\$ -	\$ -	\$ -	\$ -	\$ 29,002.50	\$	\$ -	\$ -	\$ -
	144 693	331	41.313				\$ 79.581.15	\$ 143,246,07	\$ 29 128 00	\$ 251.955.22							\$ 78.487.50	\$ 2.540.322.75	\$ 2.618.810.25	\$ 41.397.40	\$ 40.659.74	\$ 52,747,42	\$ 60,281,98	<b>\$</b> 56.868.68	\$ 403,718.50	\$ 394,552.00	\$ 491,228.25	\$ 607,619.00	\$ 721,692.50

Total \$ 2.87 M





To date, a total of 330 manholes have been opened, inspected, and photographed with GPS coordinates recorded. The individual manhole inspection tabulation data is included at the end of this report as Exhibit VI-1, Manhole Inspection Tabulation. Of the manholes inspected the following data was noted:

	1.0	Number of	Number	Number	No. Of	No. Of	No. Of	No. Of	No. Of
	<u>L.S.</u> Zone	Manholes Inspected	of Brick <u>Manholes</u>	of Precast Manholes	Probs <u>Found</u>	Defects Found	Leaks in <u>Top</u>	Leaks in <u>Walls</u>	Leaks in <u>Base</u>
Ġ	7-	43	37	6	11	7	0	5	2
80	2	37	22	15	9	8	2	6	0
8	<b>\</b> _3	16	0	16	3	1	0	1	0
	/4	70	32	38	22	11	2	8	1
,	5 کال	33	12	21	11	1	0	1	0
ງ	6	27	10	17	16	4	0	3	1
	<b>/</b> 7	0	0	0	0	0	0	0	0
	/ 8	13	0	13	4	4	3	. 0	1
	/ 9	0	0	0	0	0	0	0	0
	/ 10	4	0	4	2	2	2	0	0
8	11	0	0	0	0	0	0	0	0
20/2	12	17	0	17	2	2	2	0	0
8 (	13	4	3	1	1	. 0	0	0	0
,	14	3	0	3	1	1	1	0	0
	15	7	0	7	1	1	0	1	0
	\ 16	4	0	4	2	2	1	0	1
	17	18	1	17	9	6	4	1	1
	<b>\</b> 18	28	0	28	8	7	6	0	1
	<b>\</b> <sub>19</sub>	6	0	6	1	11	1	0	0
	Total	330	117	213	103	58	24	26	8

This data shows that approximately 31% of the manholes need attention. This may be due to actual defects or may be due to siltation, excessive roots, surcharging, or other issues. Approximately 18% of the manholes have actual defects which allow some infiltration. Almost 45% of the leaks were found in the wall sections of the manholes, 14% in the base, and 41% in the tops.

One point of interest from this data is the fact that the zones with the highest defect percentage is also the zones with the highest precast concrete manhole percentage. While one would think brick manholes would pose more problems, it is actually the opposite in this system. This is most likely due to poor construction and installation. Even when reviewing the leaking walls, there is no correlation between leaks and brick construction.

#### 6.1.2 Gravity Mains

To date, a total of 145,556+ linear feet of gravity main has been smoke tested. During smoke testing, GPS coordinates were also taken of all visible signs of leakage. The individual Smoke Testing Results Defect Listing is included at the end of this report as Exhibit VI-2, Smoke Testing Defect Listing. A legend outlining the defect types is also included at the end of this report as Exhibit VI-3, Defect Legend. From the gravity main inspections, the following data was noted:

	a	L.S. Zone	Length of Line Smoke	Number of Defects <u>Found</u> 19	Number of Faulty <u>Cleanouts</u> 13	Number of Miscellaneous <u>Defects</u>	Number of Main Line <u>Defects</u> 5
	39,5	2 W	19,175 20,289	35	32	0	3
	J,	$\sqrt{\frac{2}{3}}$	6,557	12	12	0	0
		<b>7</b> <sub>4</sub>	ω(431,904	30	30	0	0
	w/	ر 5 و	20,439	41	40 } 0	11 0	1
	Sen <	<b>√</b> 6 €	12953+	23	21/	2	0
	.9	<b>/</b> 7	768	0	0	0	0
		/ 8	1,660	2	2	0	0
	/	9	2,107	4	3	1	0
		10	479	1	1	0	0
		11	a 0-0C.	Kews O	0	0	0
_	./	12	<b>%</b> `3,980	3	3	0	0
-5		13	u 574	0	0	0	0
Sol	1	14 4	815	2	1	1	0
,0	\	15	2,273	2	1	1	0
	\	16	1,088	0	0	0	0
	\	17	6,392	2	2	. 0	0
	'	<b>\</b> 18	11,279	5	5	0	0
		19	2,824	0	00	0	0
		Total	145,556	181	166	6	9

From this data, it appears that approximately 91% of the defects found in the lines were cleanout related. Cleanout related defects include missing/broken cleanout caps, broken cleanout pipes, abandoned cleanouts. Most of these defects are easily fixed yet, they contribute the most water to the system. They are found throughout the system with no regard to age of the mains; but, do correlate with the size of the zone.

During a storm event, it would be easy for each of these 4-inch cleanouts to take in 10 gpm or more each. Over a 12 hour period, this would account for almost 1,200,000 gallons of water.

#### 8. Alternative Recommendation

An outline of the recommended improvements are shown below. The costs associated with these improvements are shown in Section 9 of this report.

#### 8.1 Wastewater Collection System

From the existing data obtained through smoke testing, the following steps should be taken:

- a. Repair all sources of inflow on private property which includes service line cleanout defects, illicit connections, open service lines, etc.
- b. Locate, open, and clean all manholes and lines that have not been found or are problems and re-inspect and smoke test to ensure that no additional defects exist.



Perform Closed Circuit TV inspection of the following main lines, and any additional ones found in Step b above, to determine what the defect is and determine the most cost effective manner of repair:

Defect No.	Starting Manhole	Ending Manhole 18-3
16	18-2 Dilner 4	18-3
31	1-22\	Lamphole West
32	المدهد ال 1-22	Lamphole East
33	1-22	Lamphole East
34	1-22	Lamphole East
39	1-13 - U me -	1-14
63	2-32 Solman	<u> </u>
64	2-32	2-33
167	5-7 expres + Si	Lamphole East

d. Repair the defective manholes in the following manner:

Frame & Lid Defects - City forces to replace ring, frame, & lid as needed. Brick Manhole Wall Defects - Replace or line manhole Concrete Manhole Wall Defects - Grout Manhole Bottom Defects - Replace or line manhole

e. Utilize all methods of repair that are appropriate for the particular defect as determined by the Engineer reviewing the CCTV inspection. The primary methods of repair will most likely include open cut repair and Cured-in-Place Liner.

#### **United States Environmental Protection Agency** Region 7 300 Minnesota Avenue Kansas City, KS 66101

APR 0 1 2015

Date:

Subject: Transmittal of Sample Analysis Results for ASR #: 6723

Project ID: WGP385

Project Description: Charleston Lagoon CSI

From: Margaret E.W. St. Germain, Chief M 34 Junior Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Pete Green

**ENSV/EFCB** 

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the enclosed Customer Satisfaction Survey and Data Disposition/Sample Release memo for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Data Disposition/Sample Release memo.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

**Enclosures** 

cc: Analytical Data File.

#### **Summary of Project Information**

04/01/2015

Project Manager: Pete Green

**ASR Number:** 6723

Org: ENSV/EFCB

**Phone:** 913-551-7343

**Project ID: WGP385** 

Project Desc: Charleston Lagoon CSI

Location: Charleston

State: Missouri

**Program:** Water Enforcement

Purpose: Compliance Monitoring

**GPRA PRC:** 501E50

Compliance Sampling at Wastewater Lagoon.

#### **Explanation of Codes, Units and Qualifiers used on this report**

Sample QC Codes: QC Codes identify the type of

sample for quality control purpose.

Units: Specific units in which results are

reported.

\_\_ = Field Sample

FB = Field Blank

Deg C = Degrees Celsius

mg/L = Milligrams per Liter

SU = Standard Units (pH)

MGD = Million Gallons per Day

ug/L = Micrograms per Liter

**Data Qualifiers:** Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.

U = The analyte was not detected at or above the reporting limit.

J = The identification of the analyte is acceptable; the reported value is an estimate.

### **Sample Information Summary**

04/01/2015

Project ID: WGP385

Project Desc: Charleston Lagoon CSI

Sample QC No Cod		Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1	Water	Charleston Lagoon Influent		03/03/2015	13:25			03/05/2015
2	Water	Charleston Lagoon Influent				03/03/2015	13:25	03/05/2015
3	Water	Charleston Lagoon Influent		03/04/2015	08:00			03/05/2015
4	Water	Charleston Lagoon Influent		03/03/2015		03/04/2015		03/05/2015
10 - FB	Water	Charleston Lagoon		03/04/2015	16:00			03/05/2015
11	Water	Charleston Lagoon Effluent		03/03/2015	15:00			03/05/2015
13	Water	Charleston Lagoon Effluent		03/04/2015	08:45			03/05/2015

#### **RLAB Approved Analysis Comments**

04/01/2015

Project ID: WGP385

**Project Desc** Charleston Lagoon CSI

Ana	lysis	Comments About Results For This Analysis
1	Amm	onia in Water
		Lab: Region 7 EPA Laboratory - Kansas City, Ks.
		Method: EPA Method 350.1 v2.0
		Samples: 2 4 10-FB 11 13
		Comments:
1	BOD5	5 in Water by DO Probe
		Lab: Region 7 EPA Laboratory - Kansas City, Ks.
		Method: EPA Region 7 RLAB Method 3153.1F
		Samples: 2 4 11 13
		Comments: (N/A)
1	Flow,	Million Gallons per Day
		Lab: (Field Measurement)
		Method: Measurement of field parameter
		Samples: 11 13
		Comments:
		(N/A)
1	Meta	ls in Water by ICP-AES
		Lab: Region 7 EPA Laboratory - Kansas City, Ks.
		Method: EPA Region 7 RLAB Method 3122.3F
		<b>Samples:</b> 10-FB 11 13
		Comments: Iron and Manganese were J-coded in sample 11. Although the analytes in question have been positively identified in the sample, the quantitation is an estimate (J-coded) due to high recovery of these analytes in the laboratory matrix spike (111/113, 109 for Iron and 112, 108 for Manganese). The actual concentration for these analytes may be lower than the reported value.
1	NFS (	or Nonfilterable Solids
		Lab: Region 7 EPA Laboratory - Kansas City, Ks.
		Method: EPA Region 7 RLAB Method 3142.3G
		Samples: 2 4 11 13
		Comments:

#### **RLAB Approved Analysis Comments**

04/01/2015

Project ID: WGP385

Project Desc Charleston Lagoon CSI

\nal	ysis	Comments About Results For This Analysis
1	Nitrog	gen, Nitrate+Nitrite in Water
		Lab: Region 7 EPA Laboratory - Kansas City, Ks.
		Method: EPA Method 353.2 for acidified samples (for total NO3+NO2 analysis). v2.0
		Samples: 2 4 10-FB 11 13
		Comments:
1	Oil &	Grease in Water
		Lab: Region 7 EPA Laboratory - Kansas City, Ks.
		Method: EPA Method 1664
		Samples: 10-FB 11 13
		Comments: (N/A)
1	pH of	Water by Field Measurement
		Lab: (Field Measurement)
		Method: Measurement of field parameter
		Samples: 1 3 11 13
		Comments: (N/A)
1	Temp	erature of Water by Field Measurement
		Lab: (Field Measurement)
		Method: Measurement of field parameter
		Samples: 1 3 11 13
		Comments: (N/A)
1	Total	Kjeldahl Nitrogen in Water Colorimetric
		Lab: Region 7 EPA Laboratory - Kansas City, Ks.
		Method: EPA Region 7 RLAB Method 3133.3G
		Samples: 2 4 10-FB 11 13
		Comments:

#### **RLAB Approved Sample Analysis Results**

04/01/2015

Project ID: WGP385

**Project Desc:** Charleston Lagoon CSI

Analysis/ Analyte	Units	1	2	3	4
1 Ammonia in Water Ammonia as Nitrogen	mg/L		5.42		9.35
1 BOD5 in Water by DO Probe BOD5	mg/L		42.1		98.8
1 NFS or Nonfilterable Solids Solids, nonfilterable	mg/L		92.4		149
1 Nitrogen, Nitrate+Nitrite in Water Nitrate + Nitrite as Nitrogen	mg/L		0.0555		0.415
1 pH of Water by Field Measurement pH	SU	7.14		6.98	
1 Temperature of Water by Field Measurement Temperature	Deg C	11.9	·.	9.8	
1 Total Kjeldahl Nitrogen in Water Colorimetric Total Kjeldahl Nitrogen	mg/L		10.1		15.4

#### **RLAB Approved Sample Analysis Results**

**ASR Number:** 6723 Project ID: WGP385

**Project Desc:** Charleston Lagoon CSI

Analysis/ Analyte	Units	10-FB	11	13
1 Ammonia in Water				
Ammonia as Nitrogen	mg/L	0.100 U	2.14	4.29
1 BOD5 in Water by DO Probe				
BOD5	mg/L		19.0	23.6
1 Flow, Million Gallons per Day				
Flow (MGD)	MGD		1.189	1.2615
1 Metals in Water by ICP-AES				
Aluminum	ug/L	50 U	50 U	50 U
Antimony	ug/L	50 U	50 U	50 U
Arsenic	ug/L	25 U	25 U	25 U
Barium	ug/L	10 U	57	58
Beryllium	ug/L	3 U	. 3 U	3 U
Cadmium	ug/L	3 U	3 U	3 U
Calcium	mg/L	2.00 U	28.9	29.6
Chromium	ug/L	15 U	15 U	15 U
Cobalt	ug/L	10 U	10 U	10 U
Copper	ug/L	5 U	5 U	8
Iron	ug/L	50 U	328 J	414
Lead	ug/L	50 U	50 U	50 U
Magnesium	mg/L	2.00 U	6.68	6.86
Manganese	ug/L	5 U	57 J	82
Molybdenum	ug/L	15 U	15 U	15 U
Nickel	ug/L	20 U	20 U	20 U
Potassium	mg/L	2.00 U	6.75	7.11
Selenium	ug/L	50 U	50 U	50 U
Silver	ug/L	25 U	25 Ų	25 U
Sodium	mg/L	5.00 U	22.9	23.4
Thallium	ug/L	50 U	50 U	50 U
Titanium	ug/L	20 U	20 U	20 U
Vanadium	ug/L	10 U	10 U	10 U
Zinc	ug/L	25 U	25 U	25 U
1 NFS or Nonfilterable Solids				
Solids, nonfilterable	mg/L		14.3	14.1
1 Nitrogen, Nitrate+Nitrite in Water				
Nitrate + Nitrite as Nitrogen	mg/L	0.0400 U	11.1	8.38
1 Oil & Grease in Water				
Oil & Grease	mg/L	5.00 U	5.00 U	5.00 U
1 pH of Water by Field Measurement				
рН	SU		7.02	6.98
1 Temperature of Water by Field Measurement				
Temperature	Deg C		2.6	2.7
1 Total Kjeldahl Nitrogen in Water Colorimetric				
Total Kjeldahl Nitrogen	mg/L	0.200 U	5.50	8.02